

1. THIS DRAWING INCLUDES INSTALLATION DETAILS TO ATTAIN MAXIMUM DESIGN PRESSURES OF 150 PSF AS TESTED IN ACCORDANCE WITH PROTOCOLS TAS 201, TAS 202, TAS 203, & AMCA 540 FOR USE WITHIN HIGH VELOCITY HURRICANE-AFFECTED ZONES DEFINED BY THE FLORIDA BUILDING CODE. THE INSTALLATION OF AN OPTIONAL CD-55 DAMPER YIELDS WATER INGRESS PROTECTION AS TESTED IN ACCORDANCE WITH TAS 100(A).
2. ALL VARIATIONS ARE LARGE MISSILE IMPACT RESISTANT.
3. UNITS OF MEASURE ARE FRACTIONAL INCHES UNLESS OTHERWISE SPECIFIED.
4. IT IS ASSUMED THAT THE LOUVER SYSTEMS DO NOT SUPPORT ANY LOADS TRANSFERRED FROM THE BUILDING CONDITION.
5. IT IS ASSUMED THAT THE BUILDING CONDITIONS ARE ADEQUATELY DESIGNED TO SUPPORT LOADS IMPARTED BY THE LOUVER SYSTEM.
6. TO PREVENT GALVANIC CORROSION, ELECTROCHEMICALLY DISSIMILAR MATERIALS IN CONTACT WITH ONE ANOTHER SHALL BE PROTECTED BY PAINT, GASKETING, OR OTHER MEANS PER THE FLORIDA BUILDING CODE.
7. WATER PENETRATION:
 - a. THE ROOM BEHIND THE LOUVER IS TO BE DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM, AND THE ROOM WILL HOUSE WATER-RESISTANT/WATERPROOF EQUIPMENT, COMPONENTS, OR SUPPLIES WHEN THE LOUVERS ARE UTILIZED WITHOUT THE CD-55 DAMPER OPTION.
 - b. CRITICAL EQUIPMENT DOES NOT NEED TO BE PROTECTED FROM MOISTURE INGRESS WHEN LOUVERS ARE UTILIZED WITH THE CD-55 DAMPER OPTION AND THE DAMPERS ARE CLOSED.
8. OTHER BUILDING CONDITIONS THAN THOSE DENOTED CAN BE UTILIZED IF ANALYZED AND APPROVED BY A PROFESSIONAL ENGINEER.
9. MULTI-SECTION WIDE AND HIGH LOUVER SYSTEMS ARE ALLOWABLE PROVIDED THE INDIVIDUAL SECTIONS ARE SUPPORTED PER THE DETAILS ON THIS DRAWING AND A SUITABLE SUPPORT STRUCTURE IS ANALYZED AND APPROVED BY A PROFESSIONAL ENGINEER.

10. THE ECD-545-MD IS DESIGNED PER THE 2012 IBC.

11. THIS LOUVER ASSEMBLY SATISFIES THE TEXAS DEPARTMENT OF INSURANCE'S CRITERIA FOR PROTECTION FROM WINDBORNE DEBRIS IN BOTH THE INLAND I ZONE AND THE SEAWARD ZONE. THE ASSEMBLY HAS PASSED A MISSILE TEST EQUIVALENT TO MISSILE LEVEL D SPECIFIED IN ASTM E 1996. THE ASSEMBLY MAY BE INSTALLED AT ANY HEIGHT ON THE STRUCTURE AS LONG AS THE DESIGN PRESSURE RATING FOR THE ASSEMBLY IS NOT EXCEEDED.

| TABLE 3 | | | | |
|---|---|----------------|------------------------------------|------------------------------------|
| ANCHOR SCHEDULE | | | | |
| SUBSTRATE | ANCHOR TYPE | MIN. EMBEDMENT | MIN. EDGE DISTANCE | MIN. SPACING |
| STEEL (12 GA MIN. THICKNESS Fy = 30 KSI MIN.) | #12-14 X 1" SELF-DRILLING TEK MACHINE SCREW (F-7) | FULL | 3/8" | N/A |
| WOOD (S.G. = 0.43 MIN.) | 1/2" X 3-1/2" LAG BOLT WITH FLAT WASHER (F-9) | 3" | 2-1/2" | 3" |
| CONCRETE (fc = 2000 PSI MIN.) | 1/2" X 5-1/2" HILTI KWIK-BOLT TZ EXPANSION ANCHOR (F-10) | 3-1/4" | 2-7/8" (SHEAR) 2-1/8" (TENSION) | 6-1/2" (SHEAR) 9-1/2" (TENSION) |
| GROUT-FILLED CMU (fm = 1500 PSI MIN.) | 5/8" X 5-1/2" HILTI KWIK-BOLT III EXPANSION ANCHOR (F-8) | 4" | 4" | 9-1/2" |

| | | | |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
| A | INITIAL RELEASE | 6/2/2017 | LGH |
| REV. | DESCRIPTION | DATE | DRAWN BY |

TOLERANCE UNLESS NOTED:

| | |
|----------|--------|
| X.X | ±0.030 |
| X.XX | ±0.015 |
| X.XXX | ±0.010 |
| ANGLE | ±1° |
| FRACTION | ±1/16 |

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

THIRD ANGLE PROJECTION

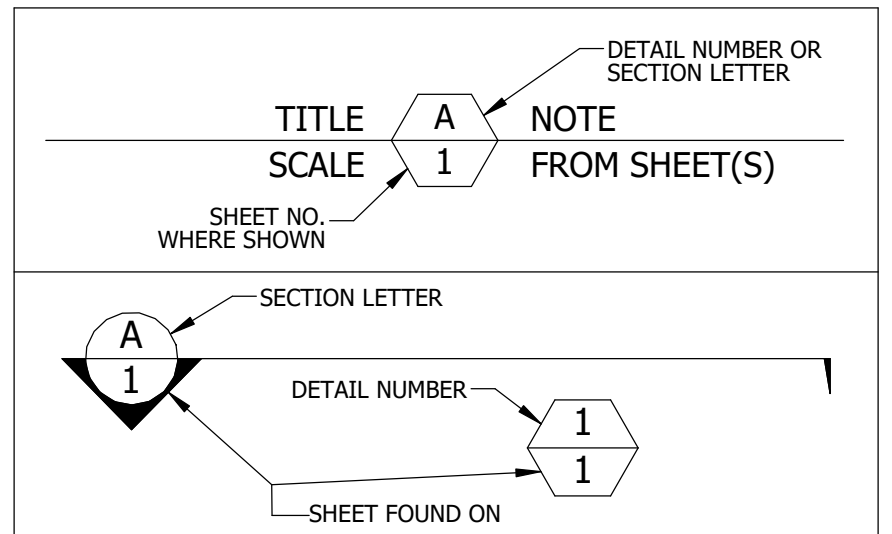


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| | | | | |
|----------------------------|---------------|--|-------------|----------------|
| DRAWING DESCR: COVER SHEET | | engineered design for the ECD-545-MD to resist the specified loading, as well as IBC 2012. It does NOT include responsibility for: * Design of air and water infiltration prevention * The manufacture, assembly, or installation of the system. * Quantities of materials or dimensional accuracy of drawings. | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 1 of 19 | SCALE: NONE | | | ECD-545-MD TDI |

| TABLE 1 | | |
|---------------------------------|-------------|-------------|
| SINGLE SECTION SIZE LIMITATIONS | | |
| MAX DESIGN PRESSURE | MIN (W X H) | MAX (W X H) |
| 150 PSF | 12 X 5 | 60 X 144 |

| TABLE 2 | |
|---|--------------------|
| MULTIPLE SECTION SIZE LIMITATIONS (MAX DESIGN PRESSURE: 150 PSF) | |
| SINGLE SECTION HIGH - UNLIMITED WIDTH | SEE SHEETS 12 & 13 |
| SINGLE SECTION WIDE - UNLIMITED HEIGHT | SEE SHEET 14 |



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GUSTAVE L. SCHMOLL
124202
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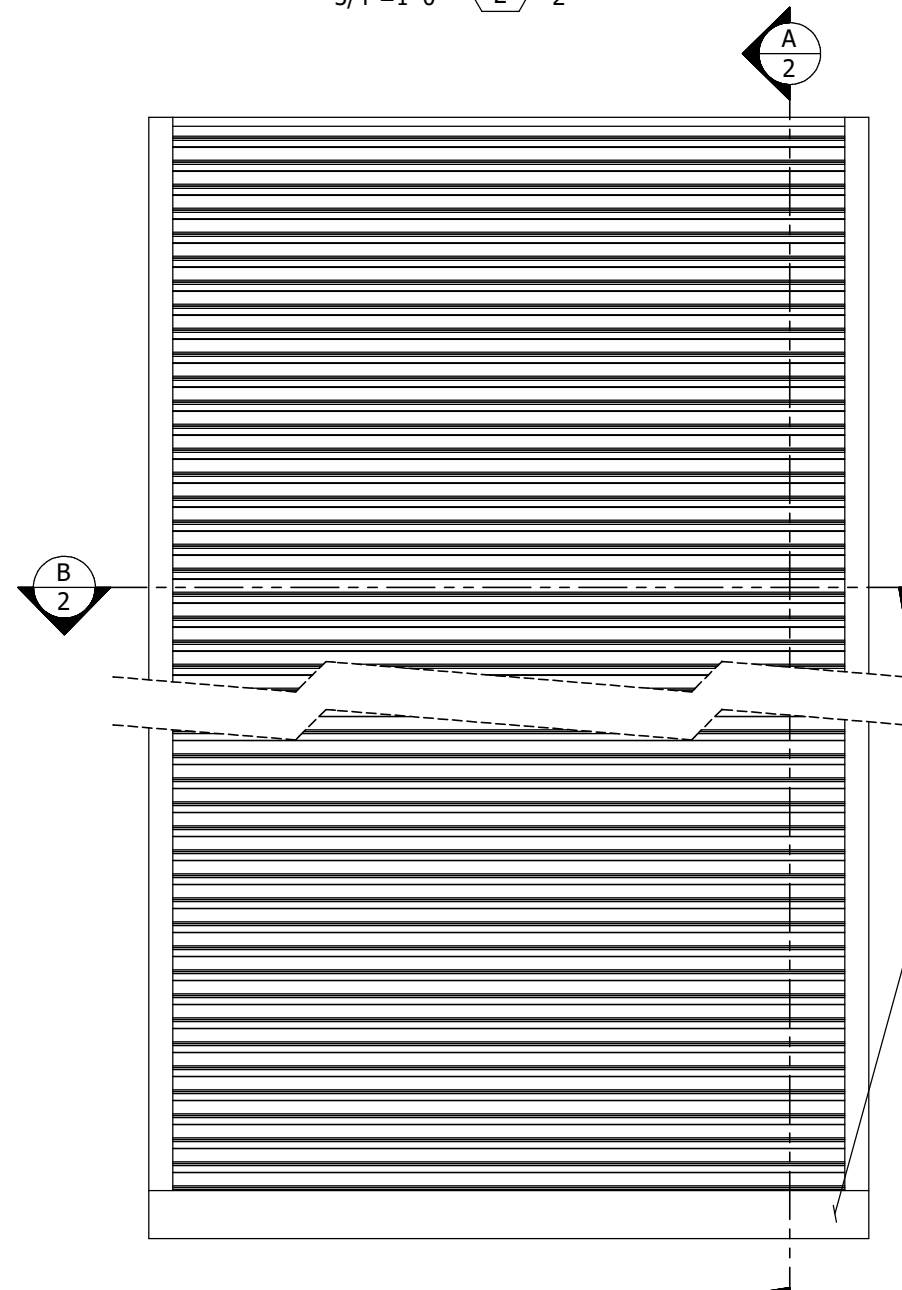
The structural drawings contained within this drawing set **are not intended to be submitted as project specific structural drawings**; however, the drawings within provide an acceptable engineered design for the ECD-545-MD to resist the specified loading, as well as IBC 2012. It does NOT include responsibility for:

- * Design of air and water infiltration prevention
- * The manufacture, assembly, or installation of the system.
- * Quantities of materials or dimensional accuracy of drawings.

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SECTION VIEW B
2 GENERAL ASSEMBLY
3/4"=1'-0"

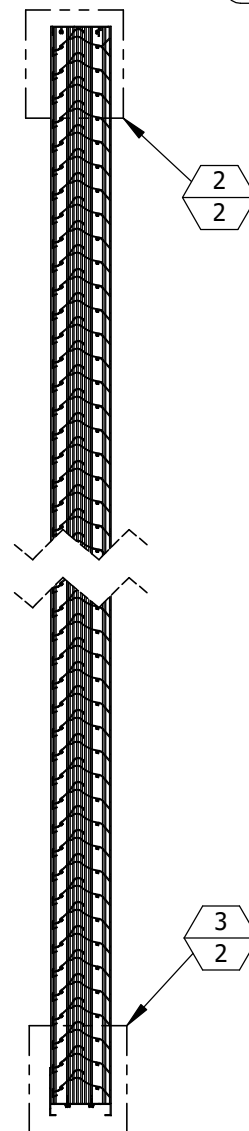


EXTERIOR ELEVATION

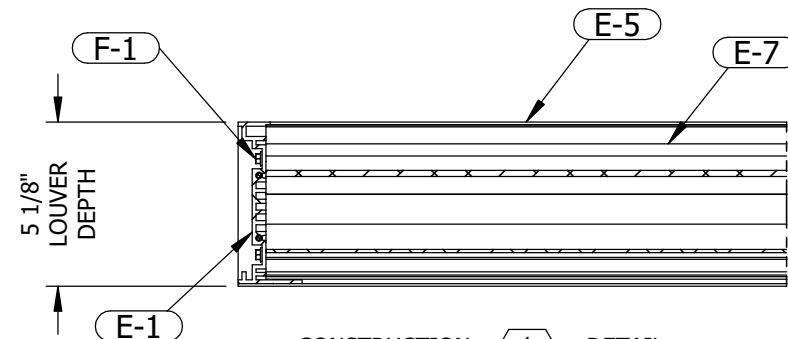
ENGRAVED LABEL DETAIL

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Ft Worth TX
SO# 123456

Miami Dade County
Product Control
Approved

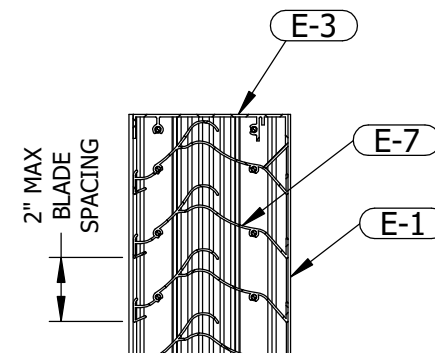


SECTION VIEW A
2 GENERAL ASSEMBLY
3/4"=1'-0"



CONSTRUCTION 1
2 DETAIL
2-1/4"=1'-0"

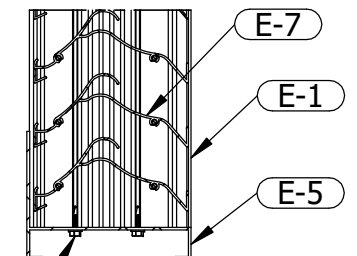
IN FLANGED CONFIGURATIONS:
E-2 WILL BE USED IN PLACE OF E-1
E-6 WILL BE USED IN PLACE OF E-5



CONSTRUCTION 2
2 DETAIL
2-1/4"=1'-0"

IN FLANGED CONFIGURATIONS:
E-2 WILL BE USED IN PLACE OF E-1
E-4 WILL BE USED IN PLACE OF E-3

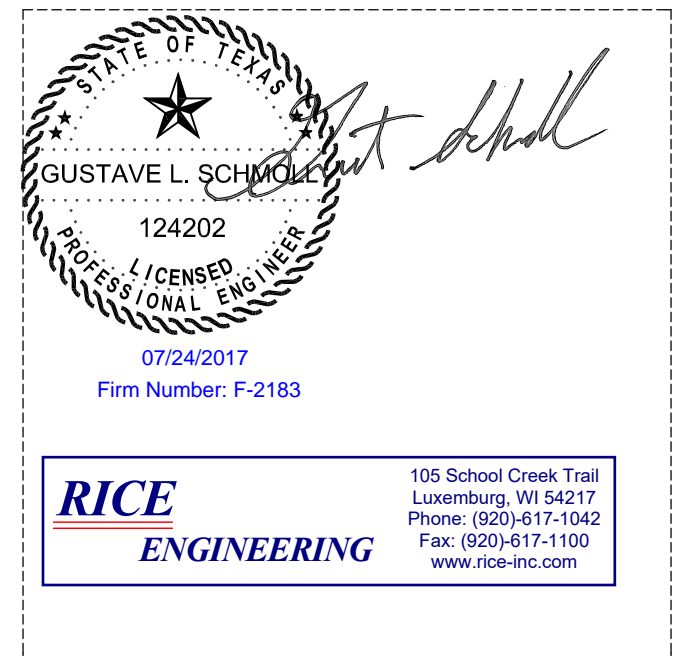
GENERAL LOUVER ASSEMBLY



CONSTRUCTION 3
2 DETAIL
2-1/4"=1'-0"

IN FLANGED CONFIGURATIONS:
E-2 WILL BE USED IN PLACE OF E-1
E-6 WILL BE USED IN PLACE OF E-5

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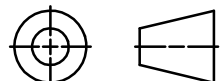
UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

TOLERANCE UNLESS NOTED:
X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION



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DRAWING DESCR: GENERAL LOUVER ASSEMBLY

PROJECT: ECD-545-MD TDI

LOCATION:

CUSTOMER:

PROJ. MGR:

DATE: 6/2/2017

SHEET: 2 of 19

DRAWN BY: LGH

ORDER NUMBER

SCALE: 3/4"=1'-0"

P.O. NUMBER

DRAWING NUMBER

ECD-545-MD TDI

B

ADDED NOTES

7/19/2017

LGH

A

INITIAL RELEASE

6/2/2017

LGH

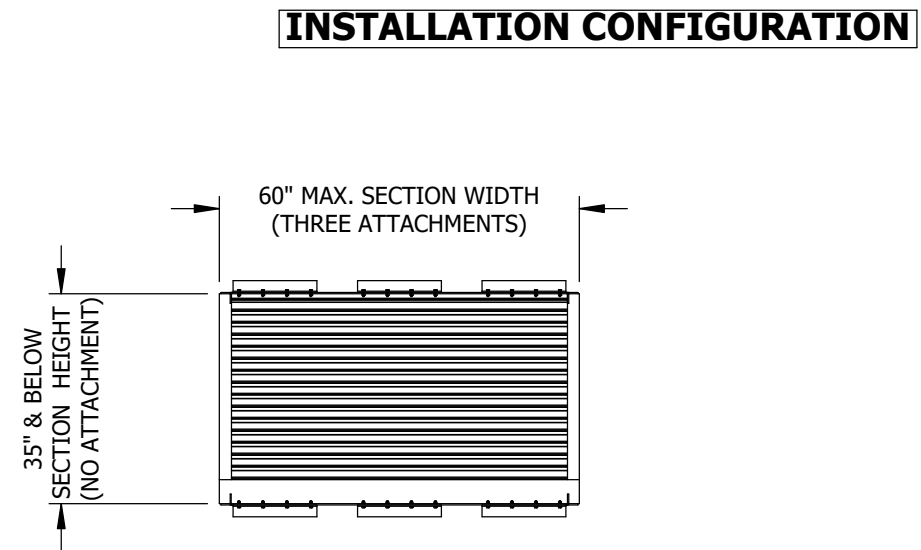
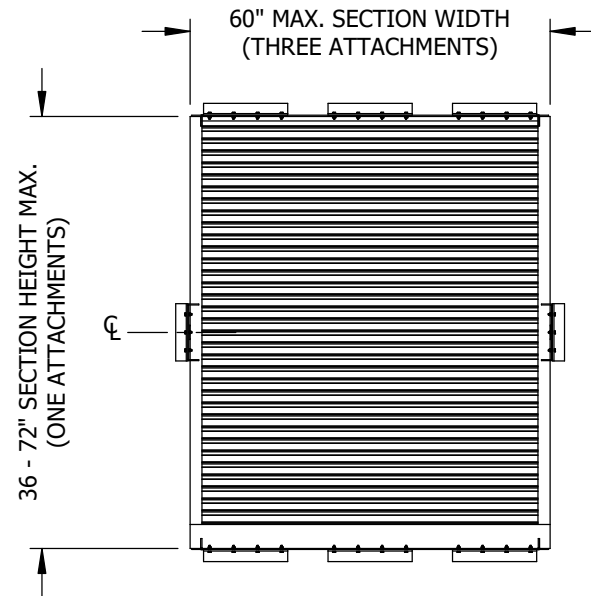
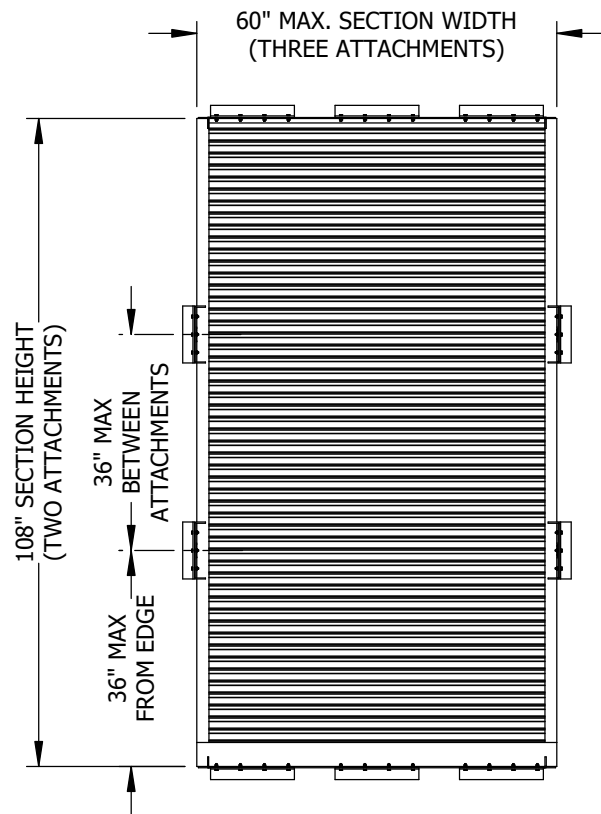
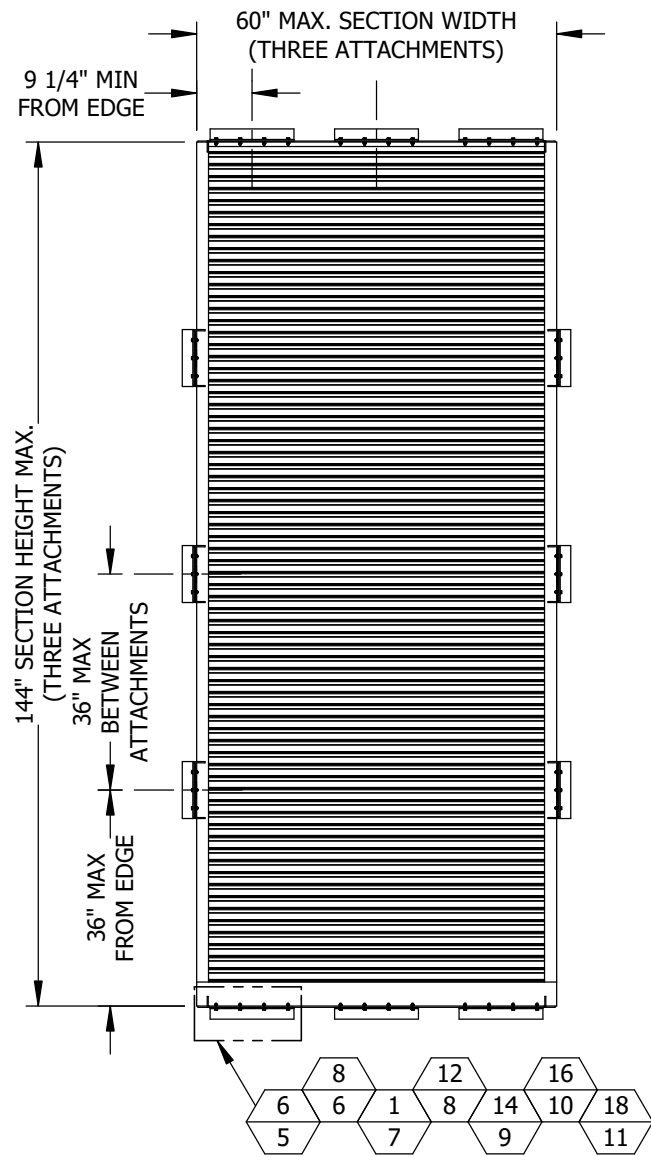
REV.

DESCRIPTION

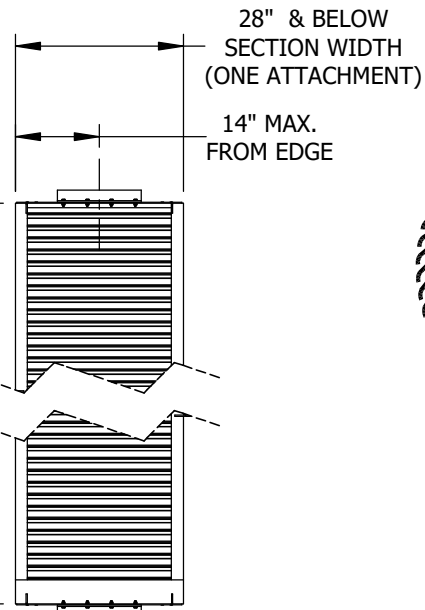
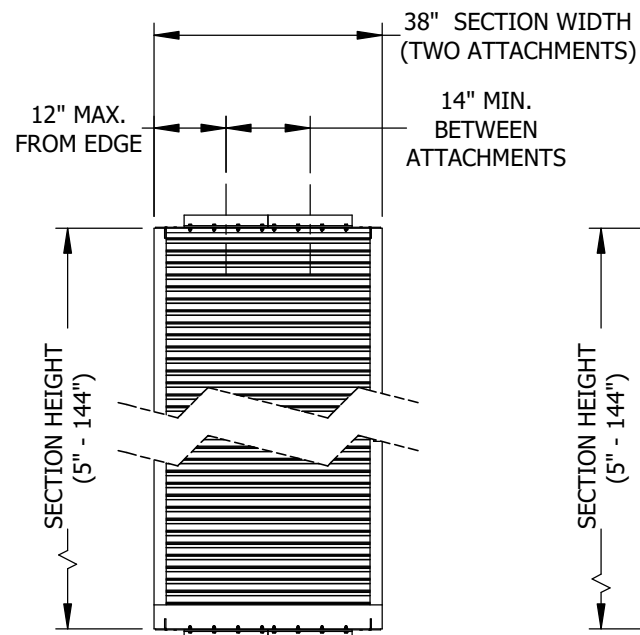
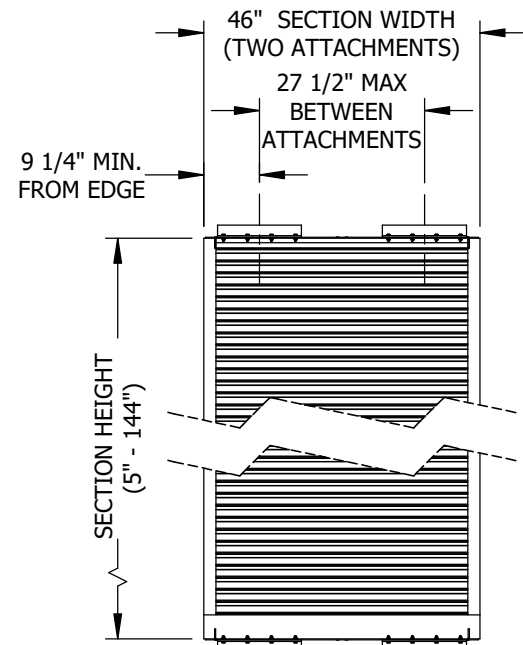
DATE

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INSTALLATION CONFIGURATION FOR LOUVER SECTIONS BETWEEN 5" AND 144" HIGH
SPACING ON 60" WIDE SECTION IS 20 3/4" MAX
TYPICAL FOR ALL BUILDING CONDITIONS



INSTALLATION CONFIGURATION FOR LOUVER SECTIONS BETWEEN 38" AND 46" WIDE
(USE A-10 ANGLES FOR SECTIONS BETWEEN 29" AND 32")
TWO ATTACHMENTS LOCATIONS TOTAL: 9 1/4" - 12" FROM EACH EDGE,
27 1/2" MAX. APART. TYPICAL FOR ALL BUILDING CONDITIONS

INSTALLATION CONFIGURATION FOR LOUVER
SECTIONS 28" WIDE & BELOW
ONE ATTACHMENT LOCATION: 9-1/4" - 14" MAX.
FROM EACH EDGE
TYPICAL FOR ALL BUILDING CONDITIONS

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Firm Number: F-2183

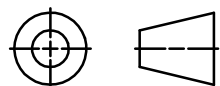
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UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.
TOLERANCE UNLESS NOTED:
X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16

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THIRD ANGLE PROJECTION



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DRAWING DESCR: INSTALLATION CONFIGURATION

PROJECT: ECD-545-MD TDI

LOCATION:

CUSTOMER:

PROJ. MGR:

DATE: 6/2/2017

SHEET: 3 of 19

DRAWN BY: LGH

CHK'D BY: JEC

SCALE: 3/4"=1'-0"

ORDER NUMBER

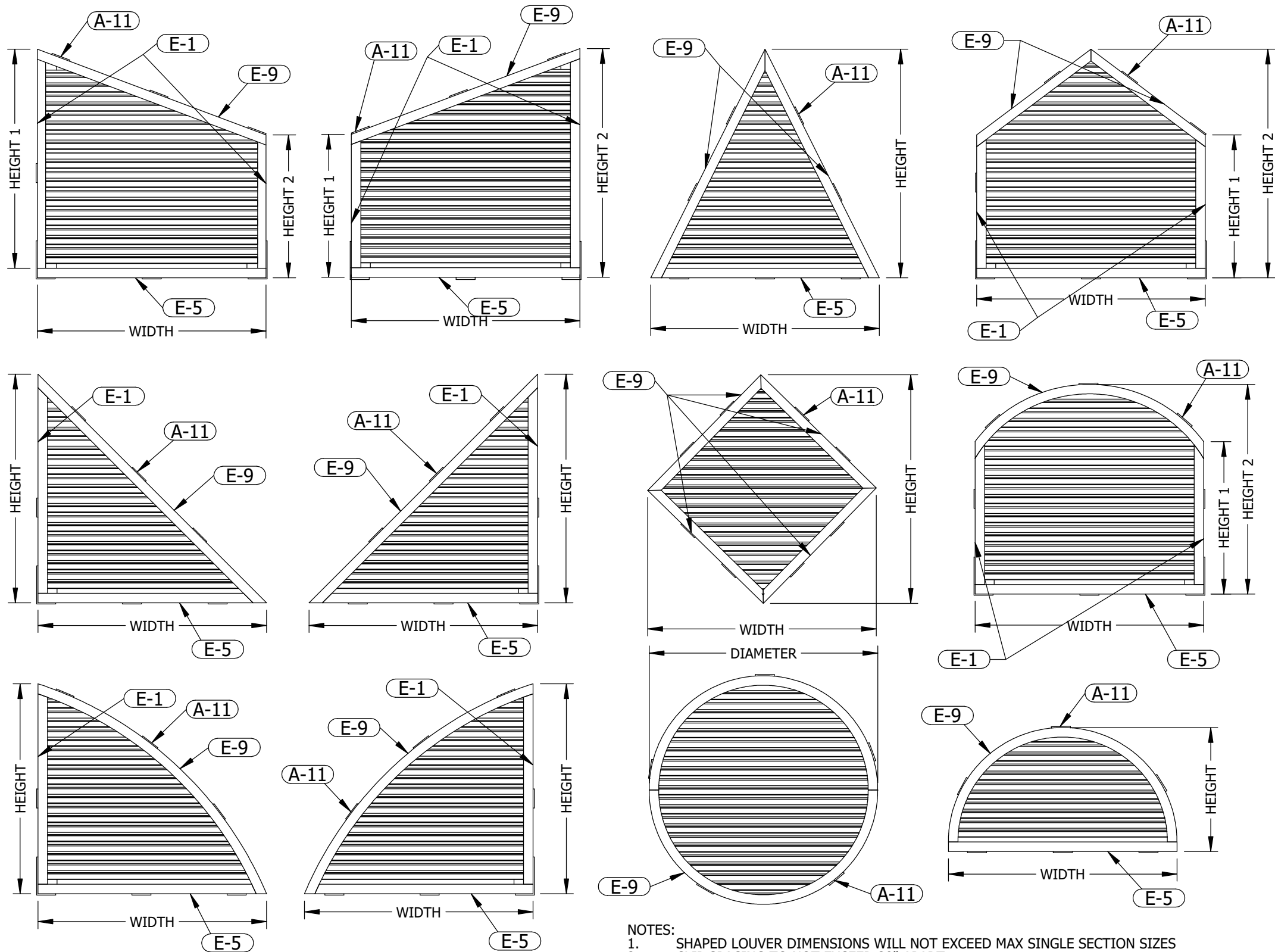
P.O. NUMBER

DRAWING NUMBER

ECD-545-MD TDI

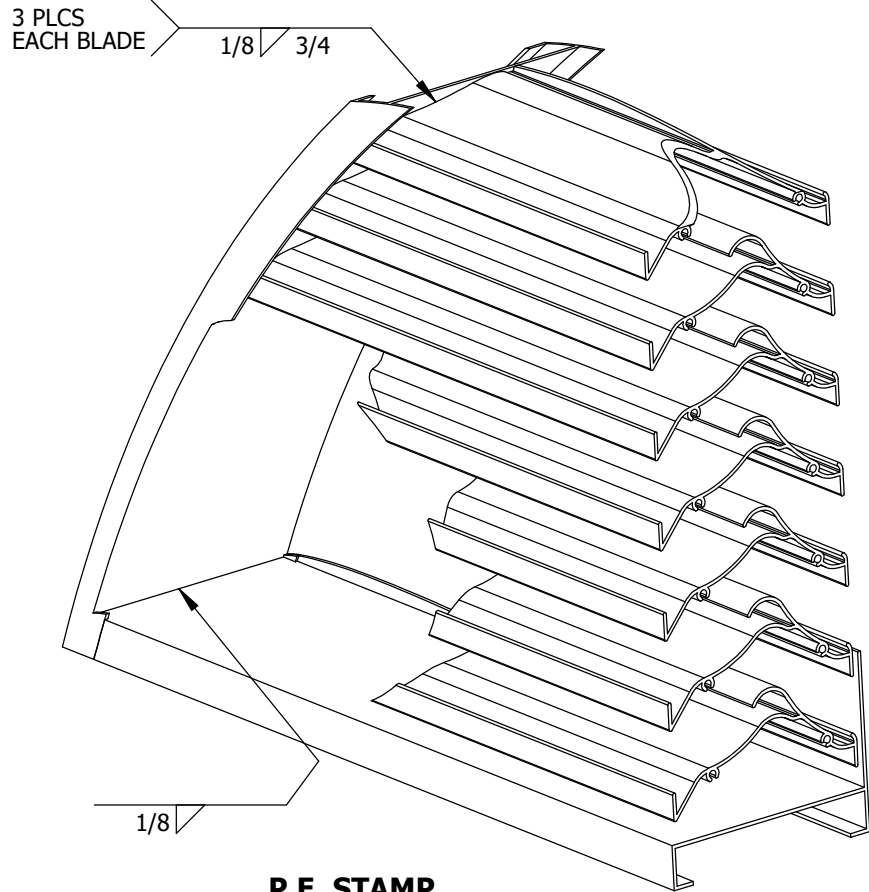
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|------|-----------------|-----------|----------|
| A | INITIAL RELEASE | 6/2/2017 | LGH |
| REV. | DESCRIPTION | DATE | DRAWN BY |

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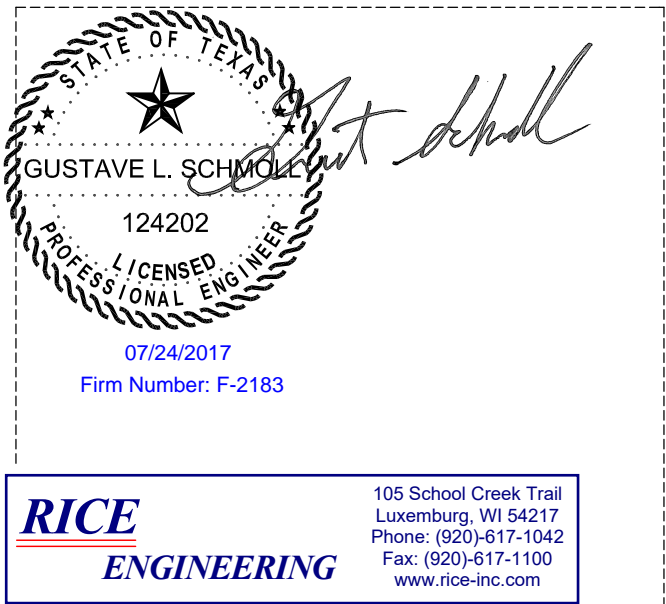


- NOTES:
1. SHAPED LOUVER DIMENSIONS WILL NOT EXCEED MAX SINGLE SECTION SIZES
 2. CLIP SPACING TO NOT EXCEED 20" APART

INSTALLATION CONFIGURATION



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UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

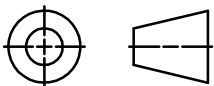
TOLERANCE UNLESS NOTED:

| | |
|----------|--------|
| X.X | ±0.030 |
| X.XX | ±0.015 |
| X.XXX | ±0.010 |
| ANGLE | ±1° |
| FRACTION | ±1/16 |

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION



POTTORFF

DRAWING DESCR: SHAPED LOUVER DETAILS

PROJECT: ECD-545-MD TDI

LOCATION:

CUSTOMER:

PROJ. MGR:

DATE: 6/2/2017

SHEET: 4 of 19

CHK'D BY: JEC

SCALE: 3/4"=1'-0"

DRAWN BY: LGH

ORDER NUMBER

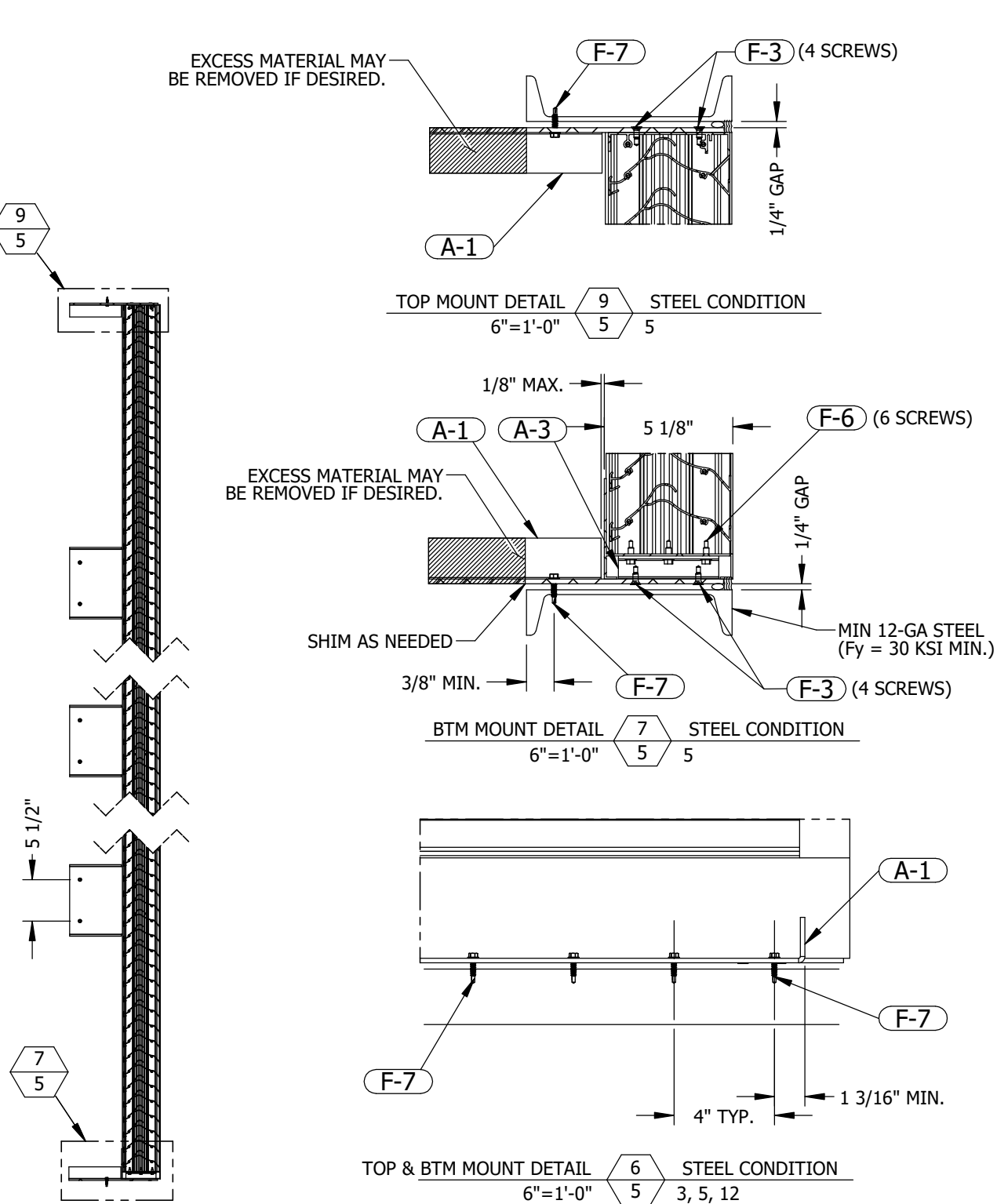
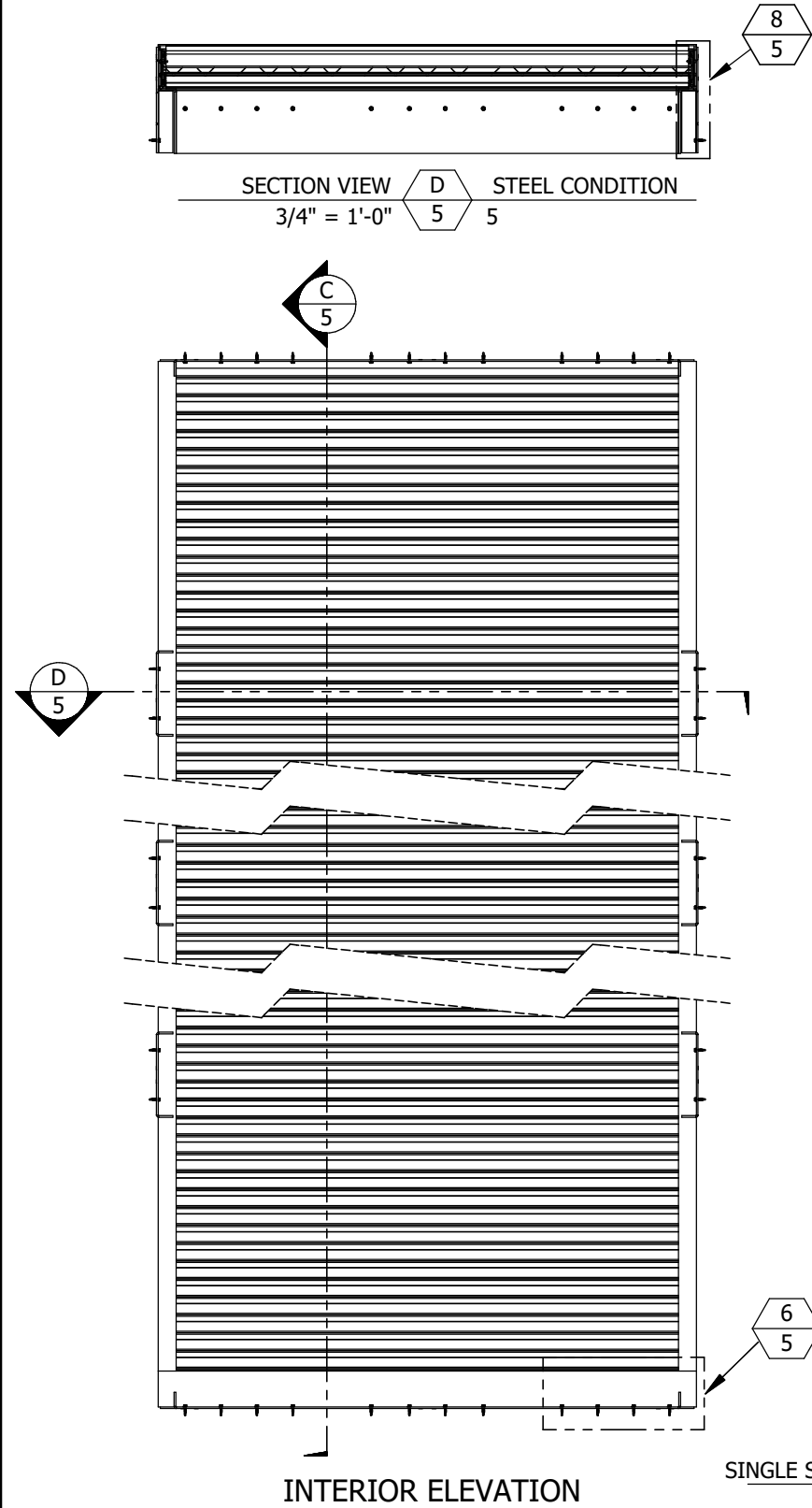
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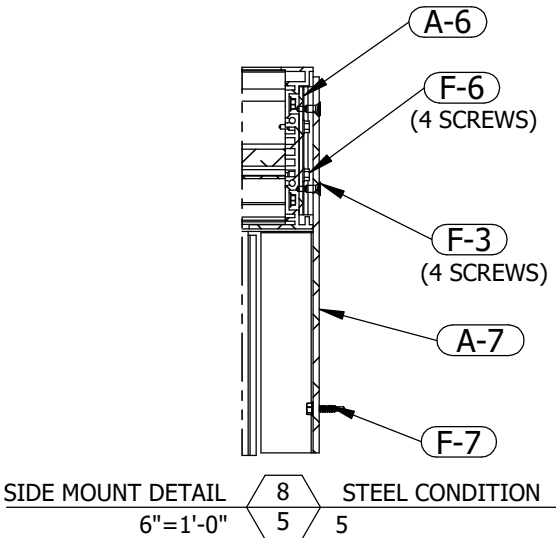
ECD-545-MD TDI

| | | | |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
| A | INITIAL RELEASE | 6/2/2017 | LGH |
| REV. | DESCRIPTION | DATE | DRAWN BY |

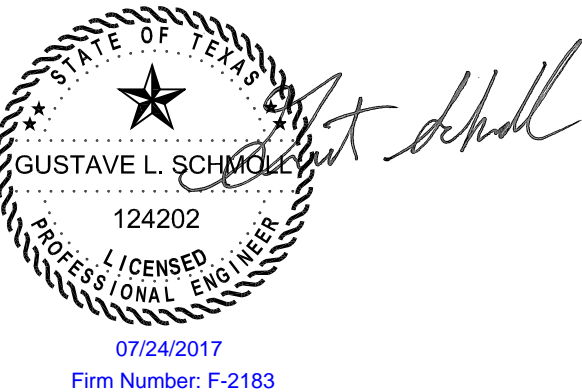
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SINGLE SECTION WIDE X SINGLE SECTION HIGH - STEEL CONDITION



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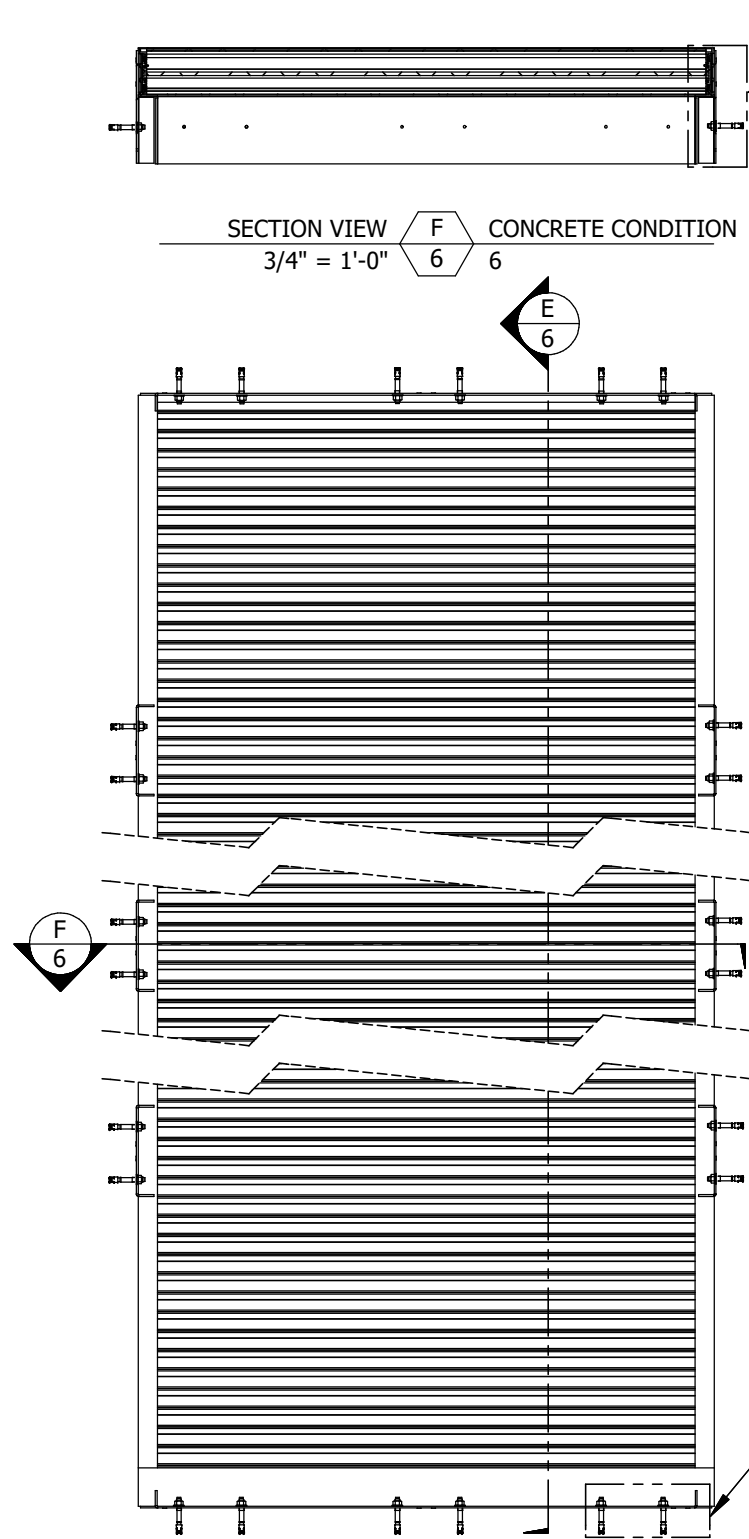


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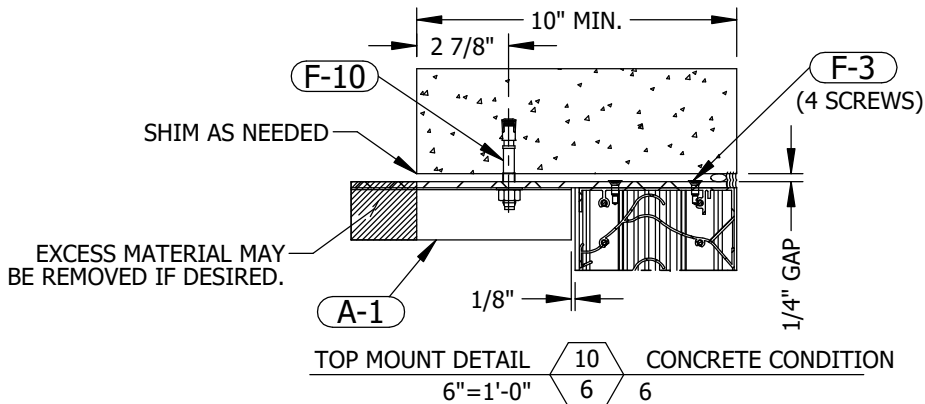
NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION 144" HIGH AND 60" WIDE. REFER TO SHEET 3 OF 19 FOR ATTACHMENT LOCATIONS ON SMALLER LOUVER SECTIONS

| | | | | | | | | | | |
|------|-----------------|-----------|----------|---|---|---------------------|--|--------------|-------------|----------------|
| | | | | UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES. | 5101 Blue Mound Road Fort Worth, Texas 76106 Phone: 817-509-2300 Fax: 817-831-3110 | <div>POTTORFF</div> | DRAWING DESCR: SINGLE SECTION WIDE X SINGLE SECTION HIGH - STEEL CONDITION | | | |
| | | | | TOLERANCE UNLESS NOTED: X.X ±0.030 X.XX ±0.015 X.XXX ±0.010 ANGLE ±1° FRACTION ±1/16 | | | PROJECT: ECD-545-MD TDI | LOCATION: | | |
| | | | | | THIRD ANGLE PROJECTION <div></div> | | CUSTOMER: | | | |
| B | ADDED NOTES | 7/19/2017 | LGH | | | PROJ. MGR: | DRAWN BY: LGH | | | |
| A | INITIAL RELEASE | 6/2/2017 | LGH | | | DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| REV. | DESCRIPTION | DATE | DRAWN BY | MAX HOLE BREAKOUT: 15% OF MATERIAL THICKNESS | | SHEET: 5 of 19 | SCALE: 3/4"=1'-0" | | | ECD-545-MD TDI |

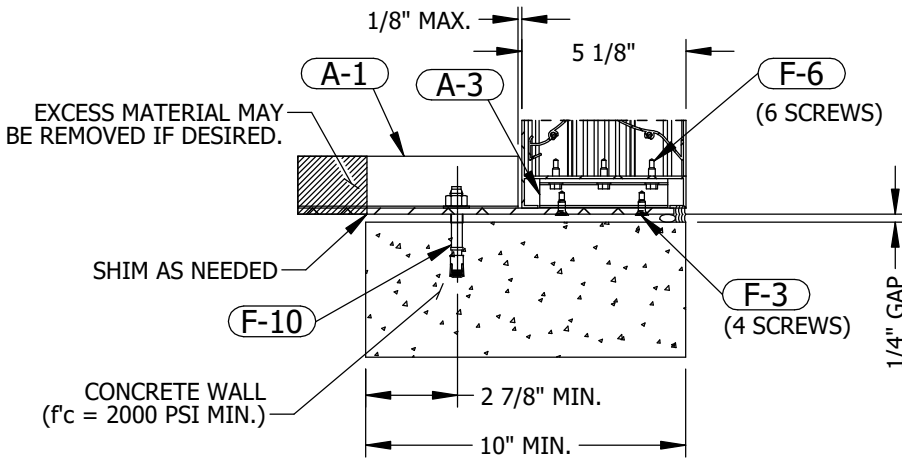


INTERIOR ELEVATION

SINGLE SECTION HIGH
3/4" = 1'-0" E 6 CONCRETE CONDITION

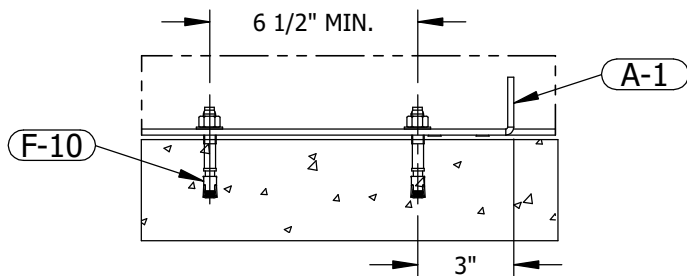


SHEAR CONNECTION
(FOR WALL OVER 10" THICK)



BTM MOUNT DETAIL
6" = 1'-0" 9 6 CONCRETE CONDITION

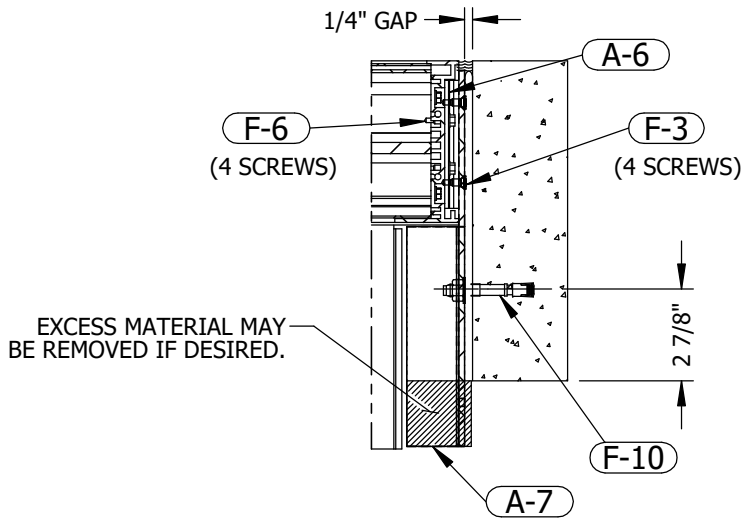
SHEAR CONNECTION
(FOR WALL OVER 10" THICK)



TOP & BTM MOUNT DETAIL
6" = 1'-0" 8 6 CONCRETE CONDITION

SHEAR CONNECTION
(FOR WALL OVER 10" THICK)

SINGLE SECTION WIDE X SINGLE
SECTION HIGH - CONCRETE CONDITION



SIDE MOUNT DETAIL
6" = 1'-0" 11 6 CONCRETE CONDITION

SHEAR CONNECTION
(FOR WALL OVER 10" THICK)

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NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION 144" HIGH AND 60" WIDE. REFER TO SHEET 3 OF 19 FOR ATTACHMENT LOCATIONS ON SMALLER LOUVER SECTIONS

UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

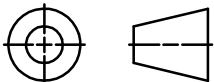
TOLERANCE UNLESS NOTED:

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X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION



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DRAWING DESCR: SINGLE SEC. WIDE X SINGLE SEC. HIGH - CONCRETE CONDITION

PROJECT: ECD-545-MD TDI

LOCATION:

CUSTOMER:

PROJ. MGR:

DATE: 6/2/2017

SHEET: 6 of 19

CHK'D BY: JEC

SCALE: 3/4"=1'-0"

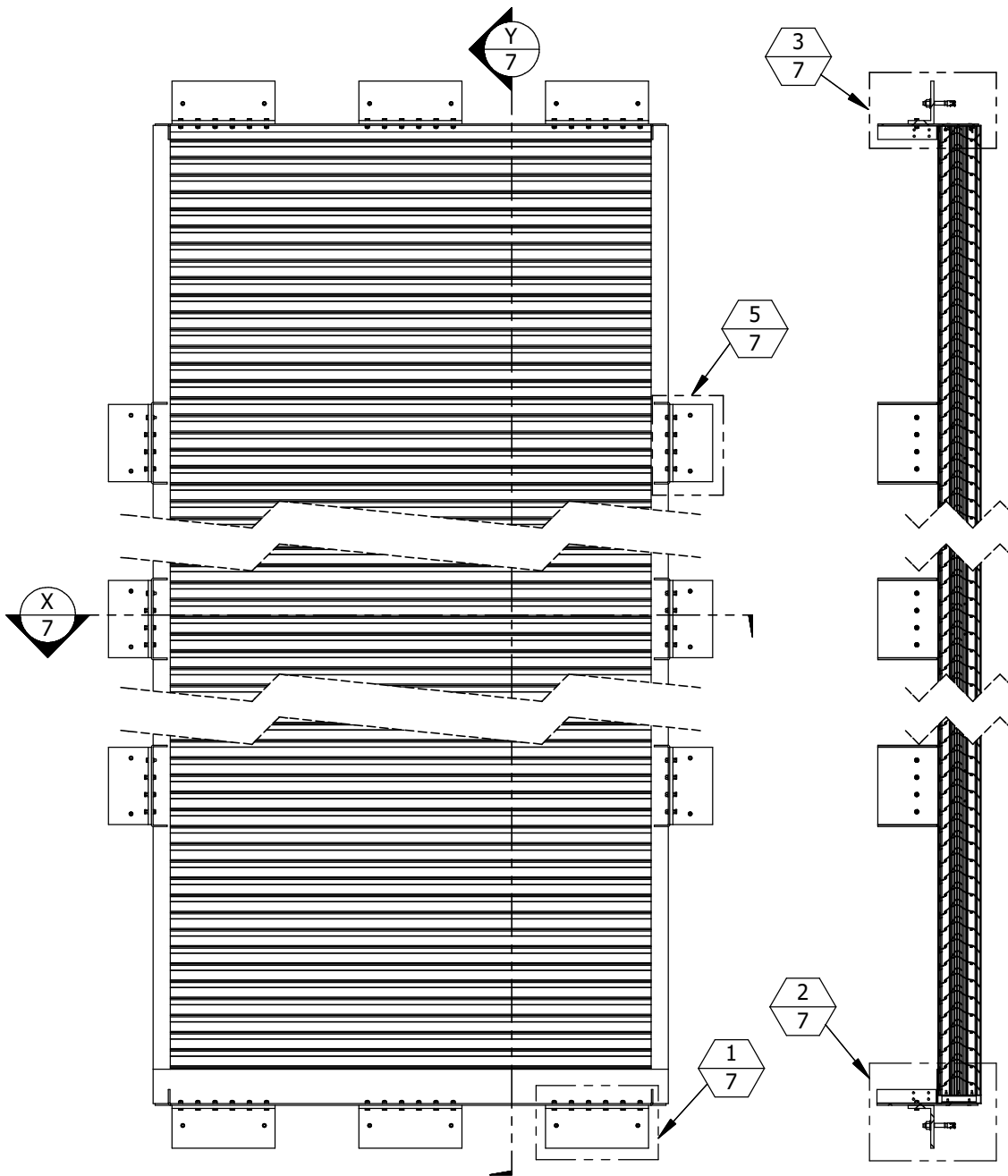
DRAWN BY: LGH

ORDER NUMBER

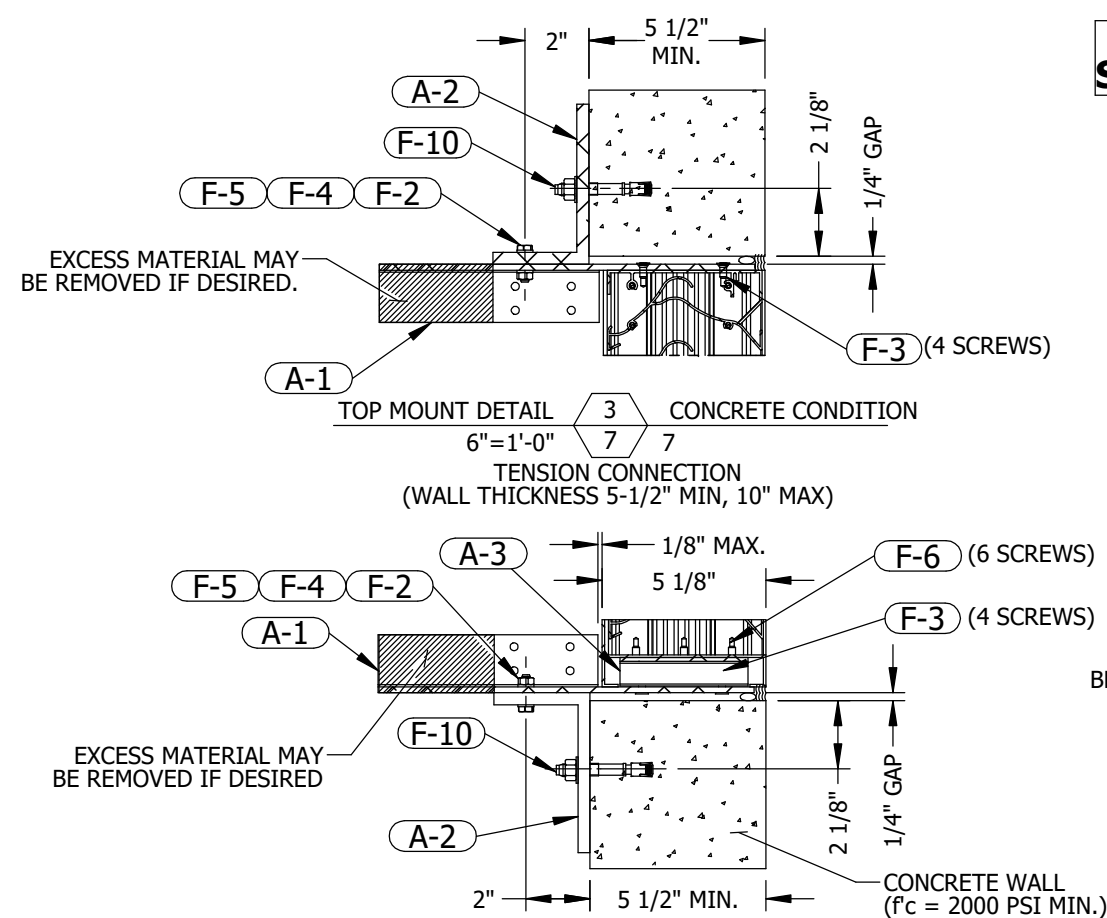
P.O. NUMBER

DRAWING NUMBER

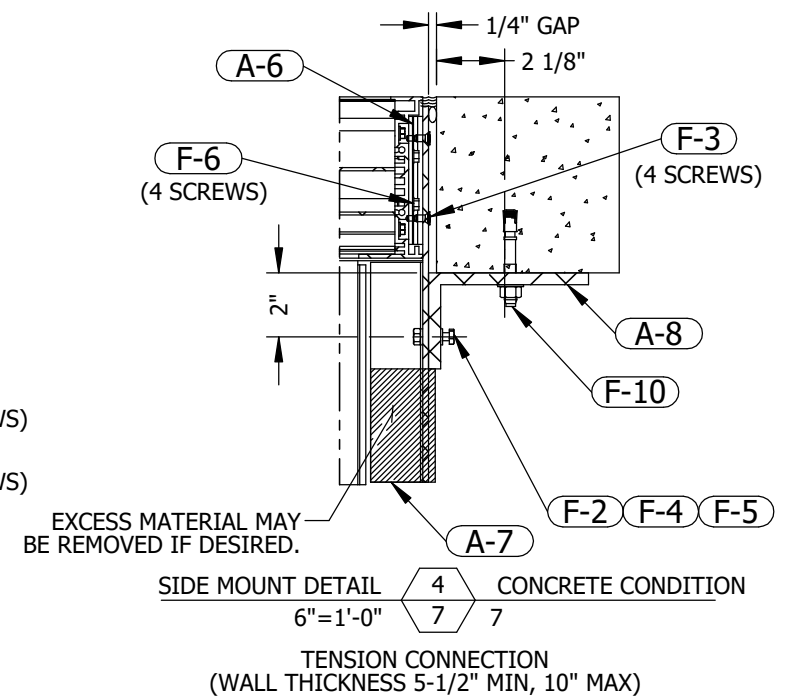
ECD-545-MD TDI



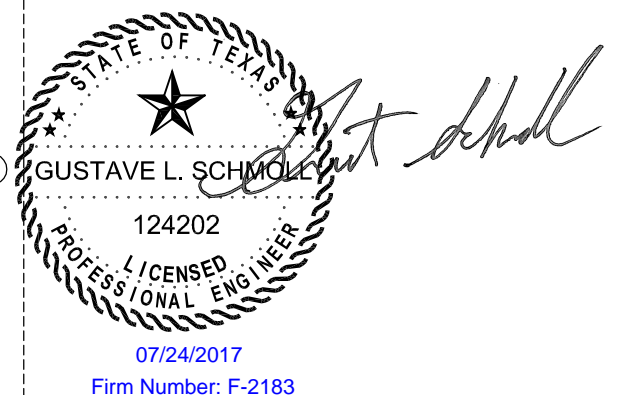
INTERIOR ELEVATION



**SINGLE SECTION WIDE X SINGLE
SECTION HIGH - CONCRETE CONDITION**

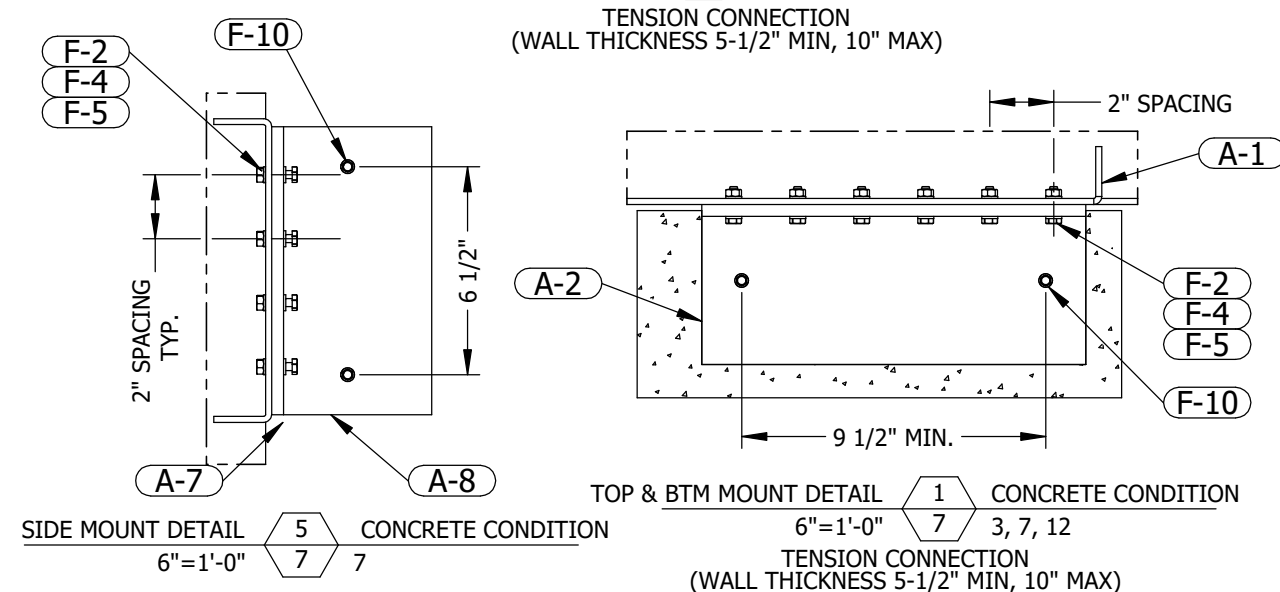


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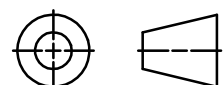
UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

TOLERANCE UNLESS NOTED:

| | |
|----------|--------|
| X.X | ±0.030 |
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Fax: 817-831-3110

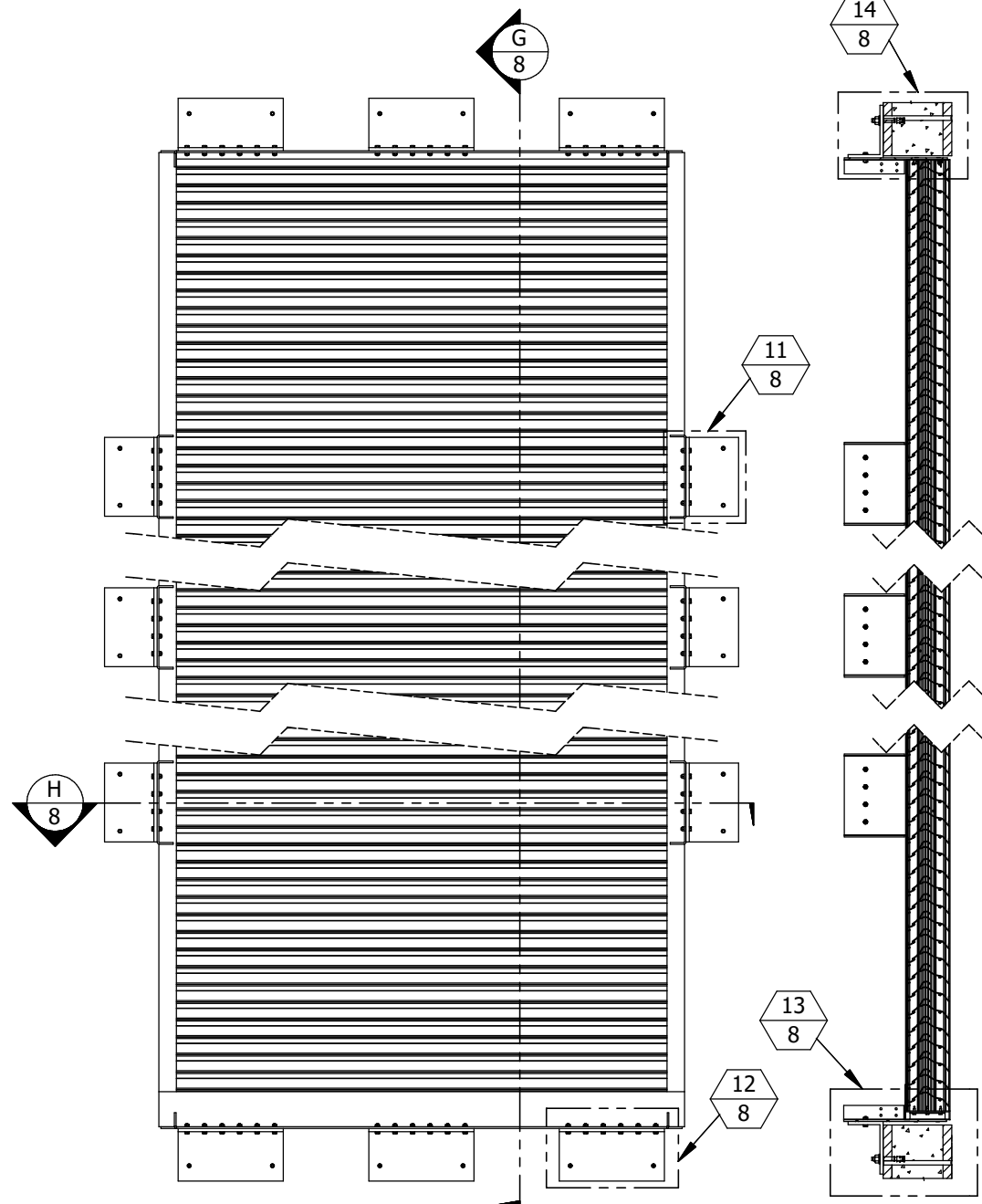
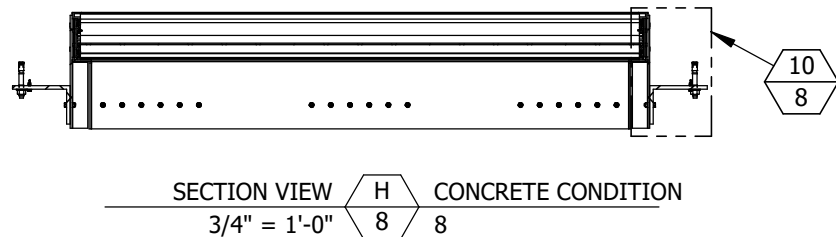
THIRD ANGLE PROJECTION



POTTORFF

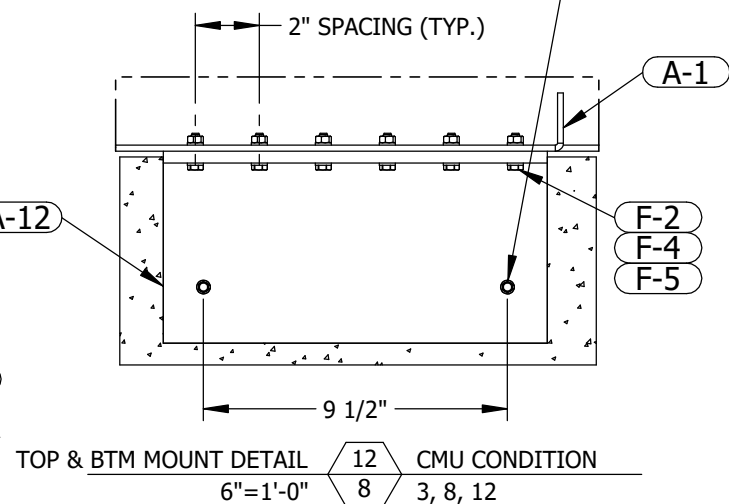
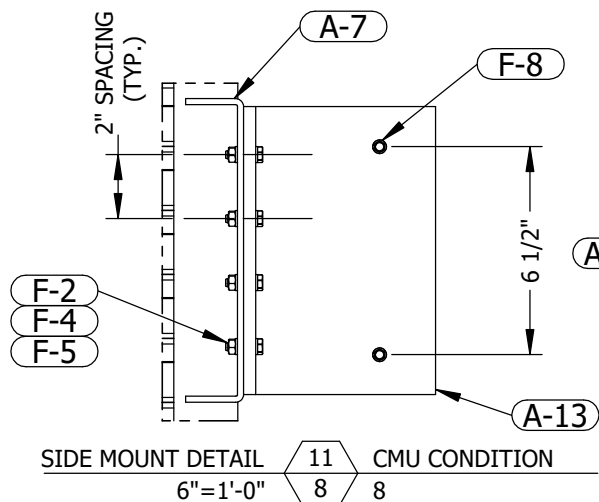
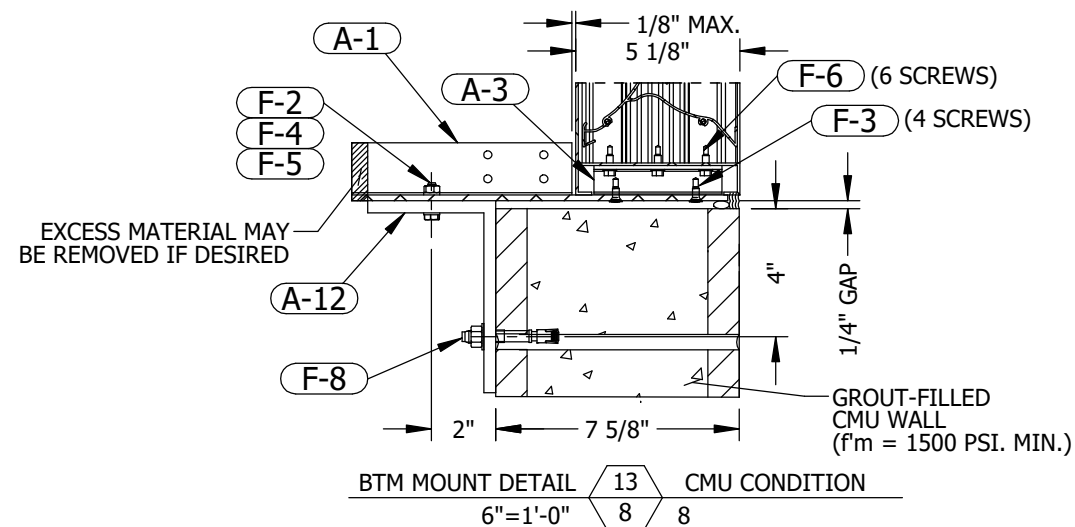
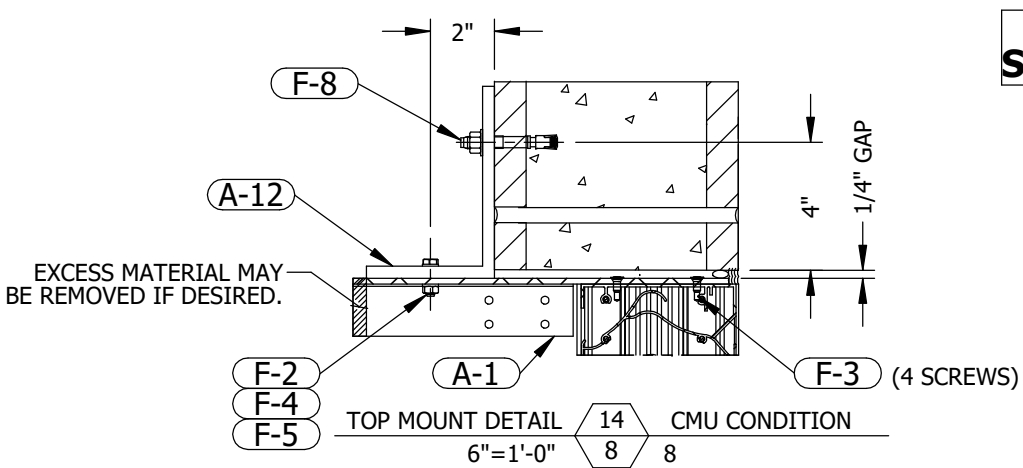
| | | | | |
|---|-------------------|---------------|-------------|----------------|
| DRAWING DESCR: SINGLE SEC. WIDE X SINGLE SEC. HIGH - CONCRETE CONDITION | | | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 7 of 19 | SCALE: 3/4"=1'-0" | | | ECD-545-MD TDI |

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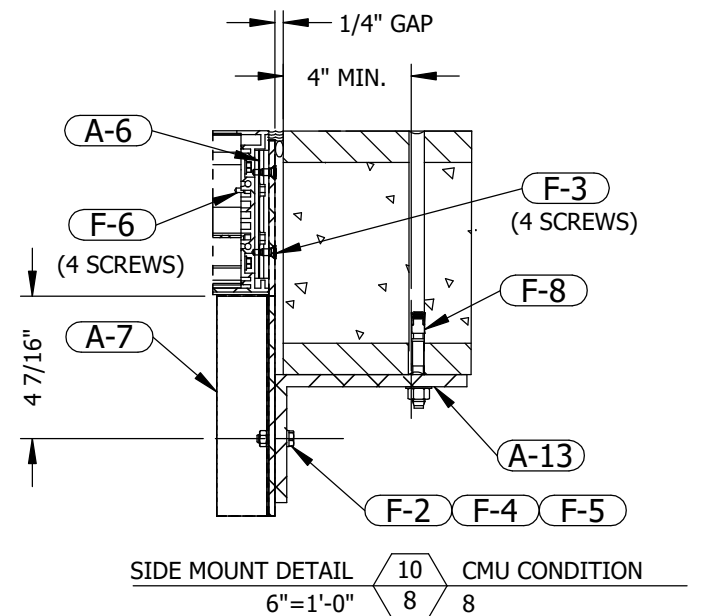
INTERIOR ELEVATION

SINGLE SECTION HIGH G 8 CMU CONDITION 3/4" = 1'-0" 8



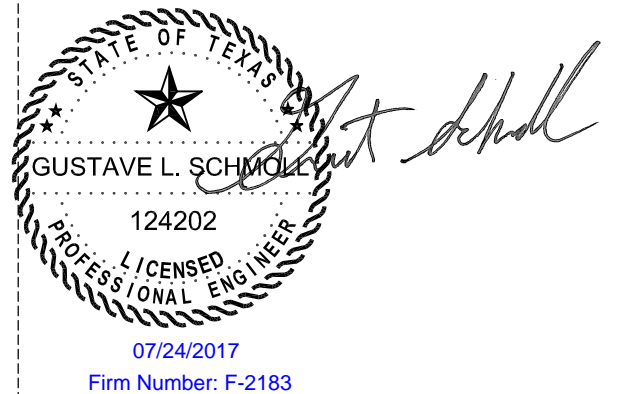
NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION 144" HIGH AND 60" WIDE. REFER TO SHEET 3 OF 19 FOR ATTACHMENT LOCATIONS ON SMALLER LOUVER SECTIONS

SINGLE SECTION WIDE X SINGLE SECTION HIGH - GROUT-FILLED CMU CONDITION



NOTE:
NO ANCHOR MAY BE LOCATED CLOSER THAN 1-3/8" TO A VERTICAL JOINT BETWEEN CMU BLOCKS AND NO CELL IN EACH BLOCK MAY BE PENETRATED BY MORE THAN ONE ANCHOR.

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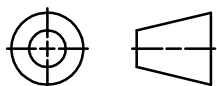
UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

TOLERANCE UNLESS NOTED:
X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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Fax: 817-831-3110

THIRD ANGLE PROJECTION



POTTORFF

DRAWING DESCR: SINGLE SECTION WIDE X SINGLE SECTION HIGH - CMU CONDITION

PROJECT: ECD-545-MD TDI

LOCATION:

CUSTOMER:

PROJ. MGR:

DATE: 6/2/2017

SHEET: 8 of 19

DRAWN BY: LGH

ORDER NUMBER

SCALE: 3/4"=1'-0"

P.O. NUMBER

DRAWING NUMBER

ECD-545-MD TDI

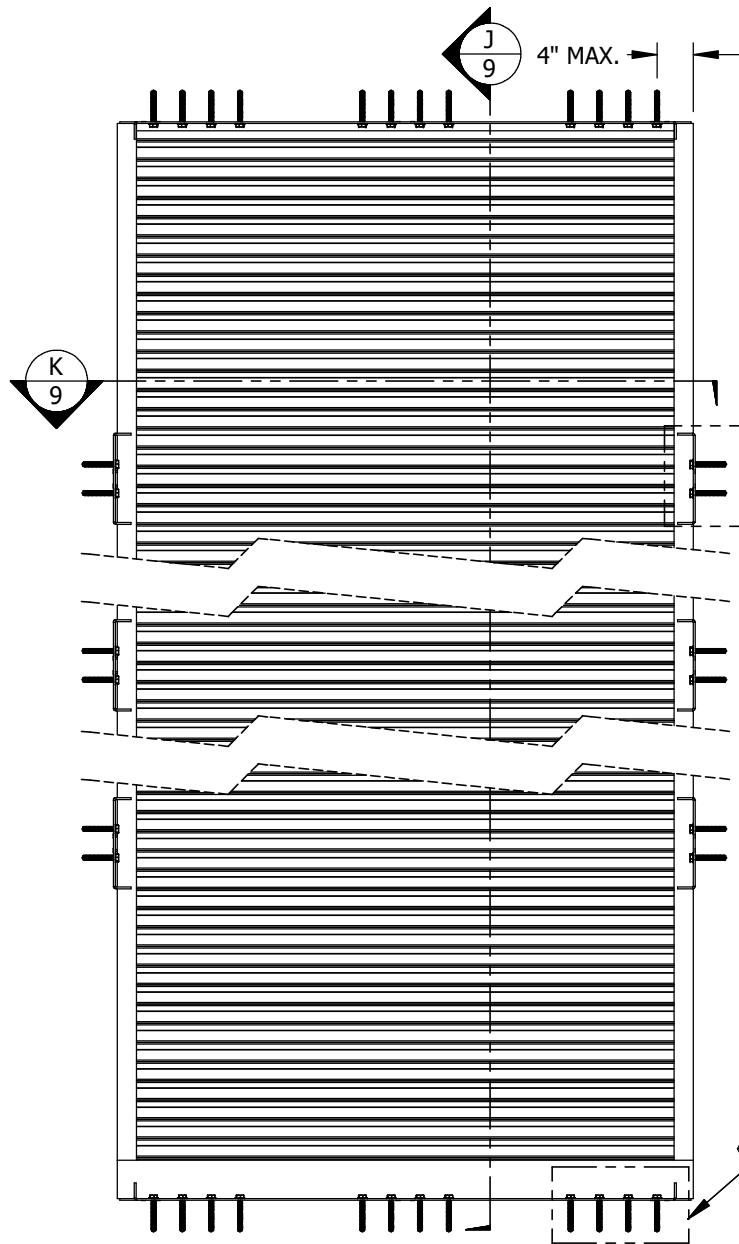
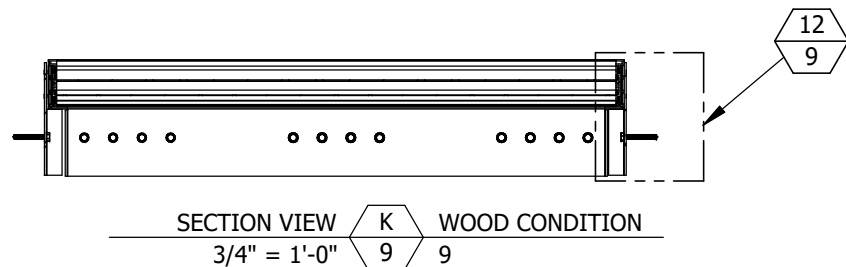
B
A
REV.

ADDED NOTES
INITIAL RELEASE
DESCRIPTION

7/19/2017
6/2/2017
DATE

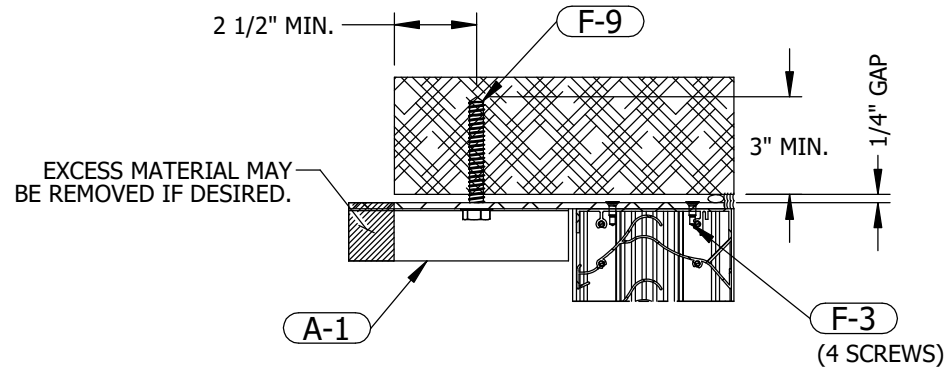
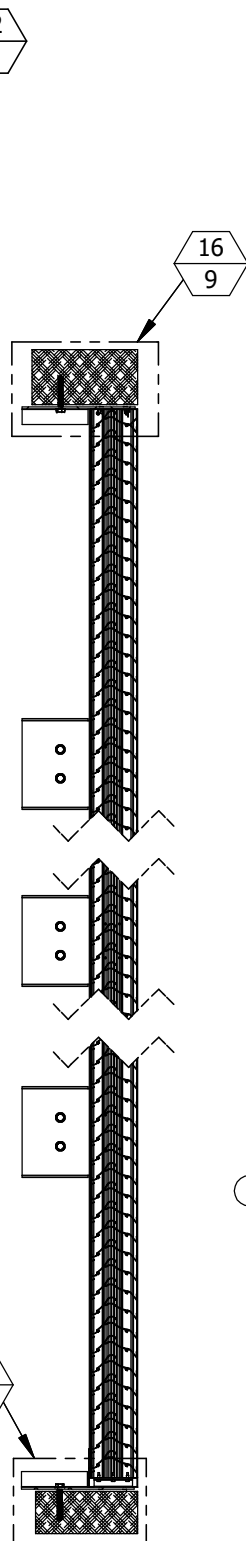
LGH
LGH
DRAWN BY

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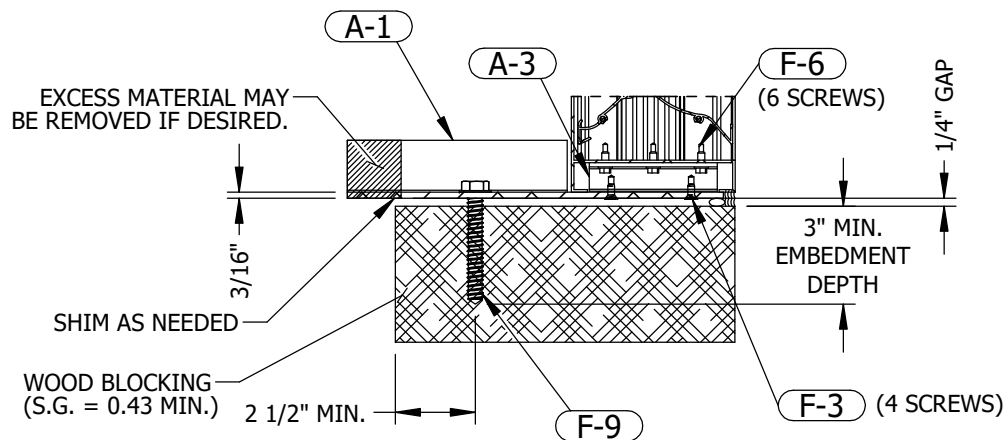


INTERIOR ELEVATION

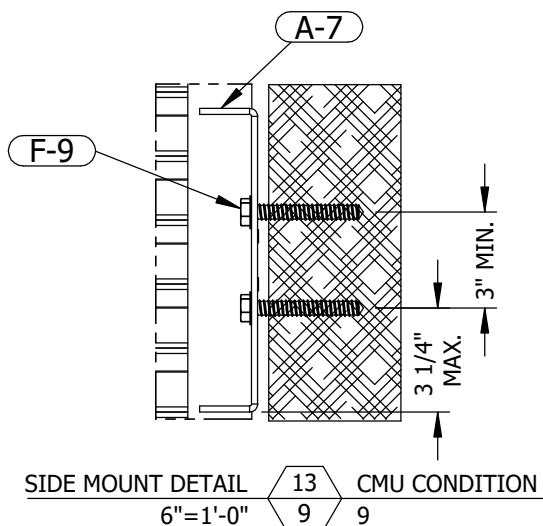
SINGLE SECTION HIGH J 9 WOOD CONDITION 3/4"=1'-0"



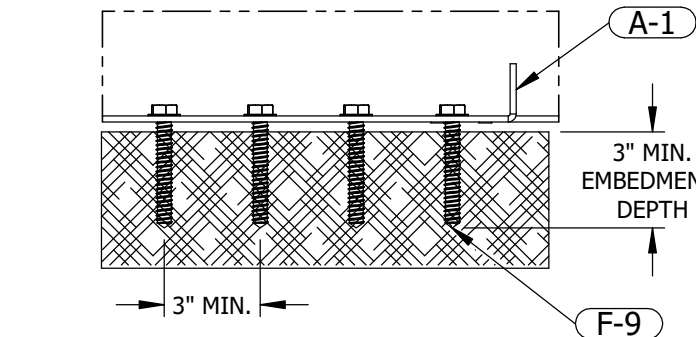
TOP MOUNT DETAIL 16 9 WOOD CONDITION 6"=1'-0"



BTM MOUNT DETAIL 15 9 WOOD CONDITION 6"=1'-0"

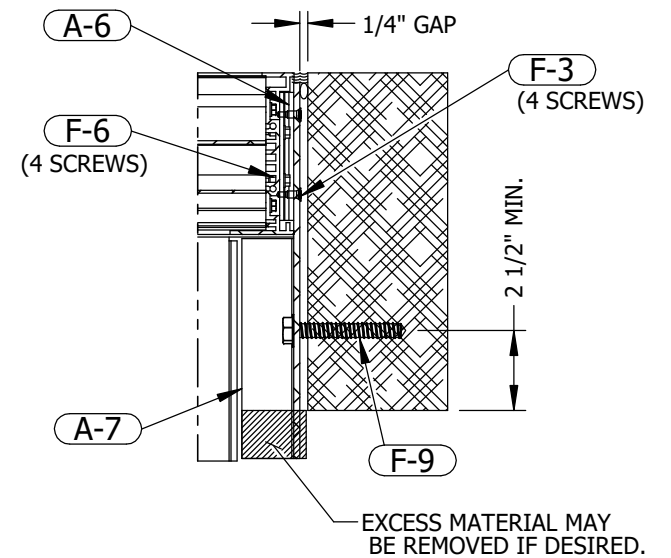


SIDE MOUNT DETAIL 13 9 CMU CONDITION 6"=1'-0"



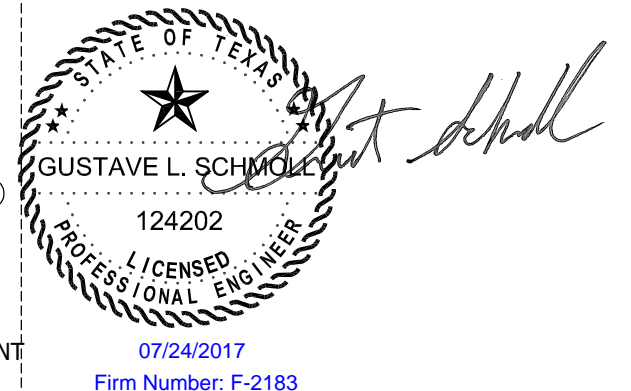
TOP & BTM MOUNT DETAIL 14 9 WOOD CONDITION 6"=1'-0" 3, 9, 12

SINGLE SECTION WIDE X SINGLE SECTION HIGH - WOOD CONDITION



SIDE MOUNT DETAIL 12 9 WOOD CONDITION 6"=1'-0"

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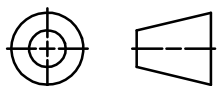


NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION 144" HIGH AND 60" WIDE. REFER TO SHEET 3 OF 19 FOR ATTACHMENT LOCATIONS ON SMALLER LOUVER SECTIONS

UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.
TOLERANCE UNLESS NOTED:
X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16
MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION

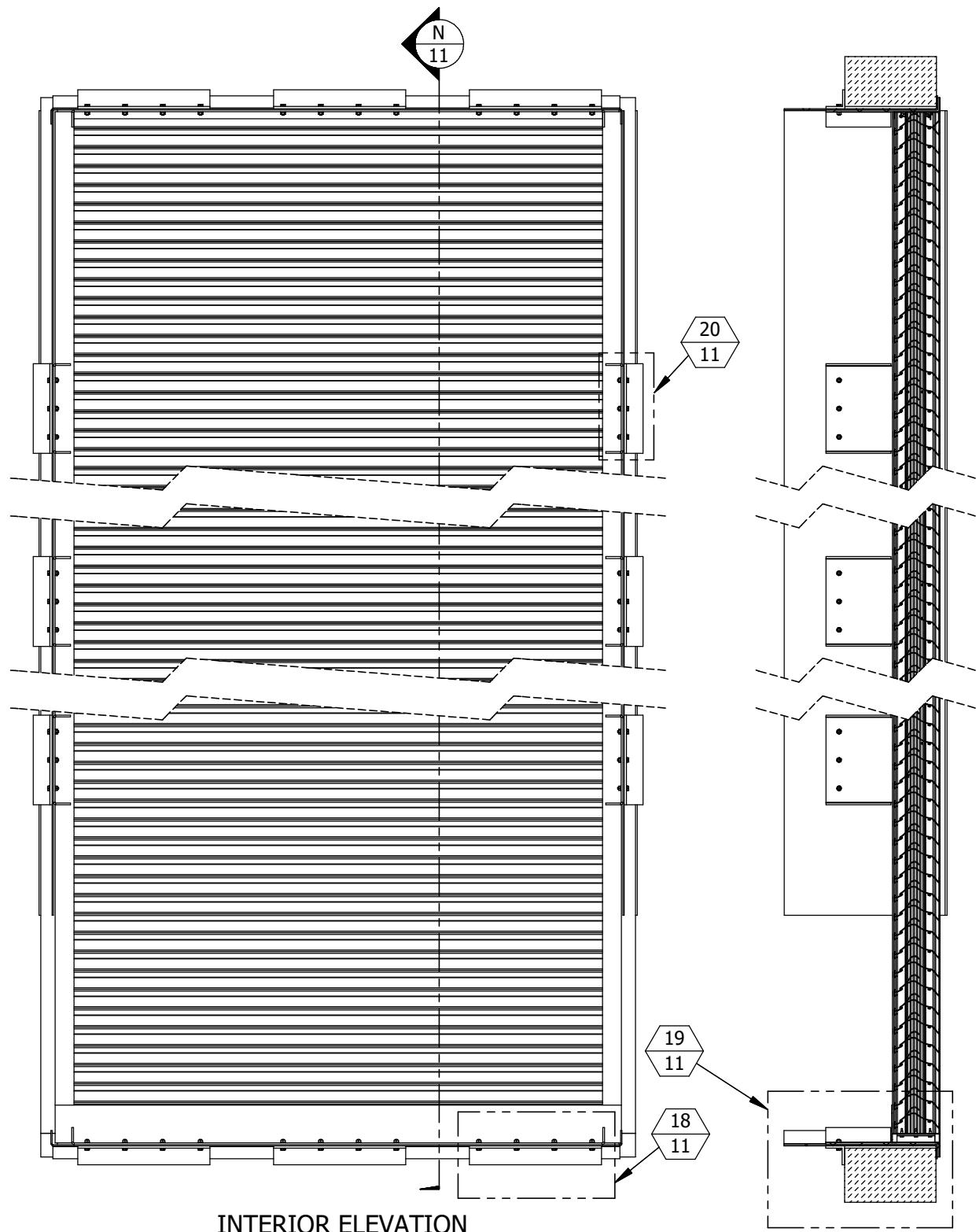


POTTORFF

| | | | | |
|---|-------------------|---------------|-------------|----------------|
| DRAWING DESCR: SINGLE SECTION WIDE X SINGLE SECTION HIGH - WOOD CONDITION | | | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 9 of 19 | SCALE: 3/4"=1'-0" | | | ECD-545-MD TDI |

| | | | |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
| A | INITIAL RELEASE | 6/2/2017 | LGH |
| REV. | DESCRIPTION | DATE | DRAWN BY |

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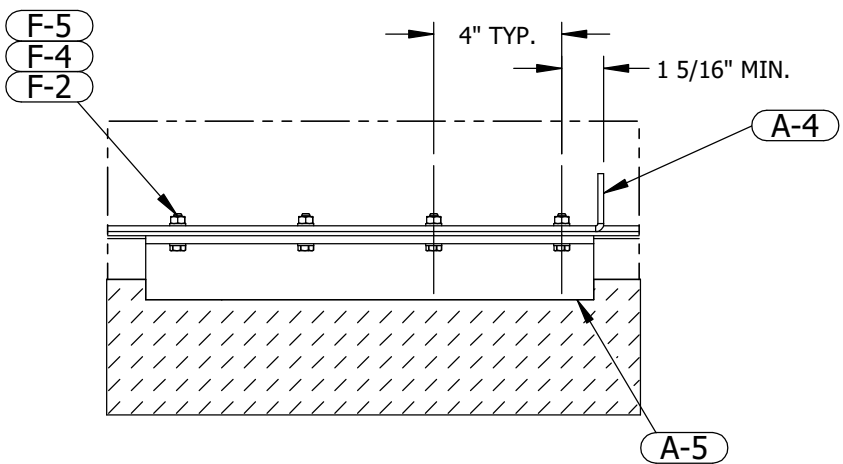


INTERIOR ELEVATION

FLANGED SINGLE SECTION HIGH

| | |
|----|----------------|
| N | ALL CONDITIONS |
| 11 | 11 |

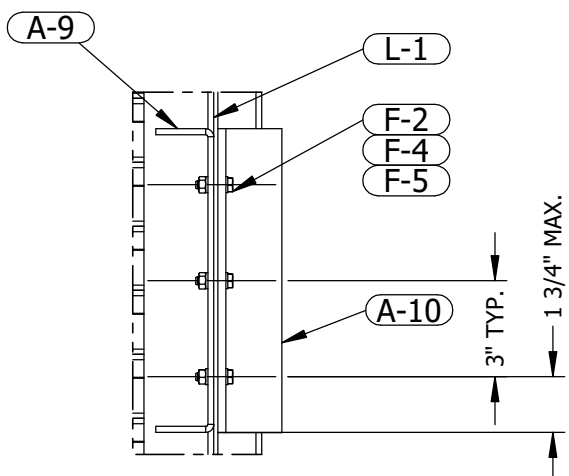
3/4" = 1'-0"



FLANGED BTM MOUNT DETAIL

| | |
|----|------------------------------|
| 18 | WITH SLEEVE - ALL CONDITIONS |
| 11 | 3, 11, 13 |

6"=1'-0"

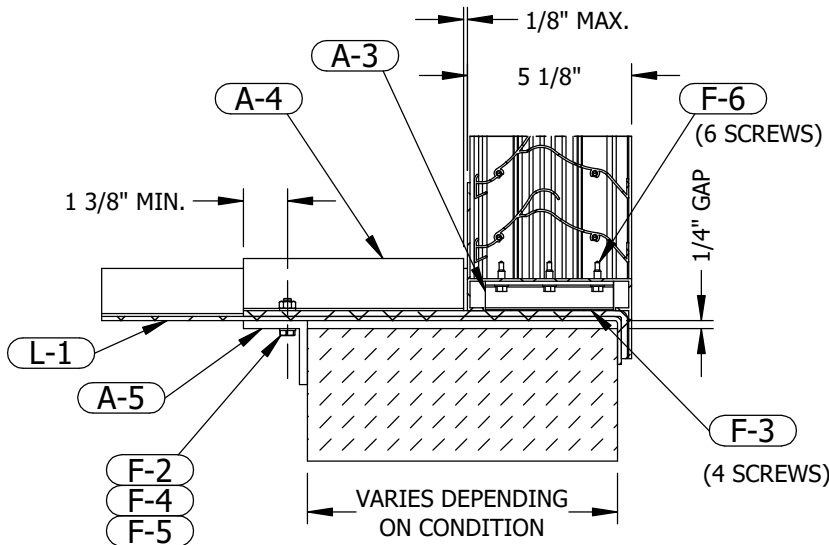


FLANGED SIDE MOUNT DETAIL

| | |
|----|------------------------------|
| 20 | WITH SLEEVE - ALL CONDITIONS |
| 11 | 11 |

6"=1'-0"

SINGLE SECTION WIDE X SINGLE SECTION HIGH - FLANGED ASSEMBLY WITH SLEEVE - ALL CONDITIONS

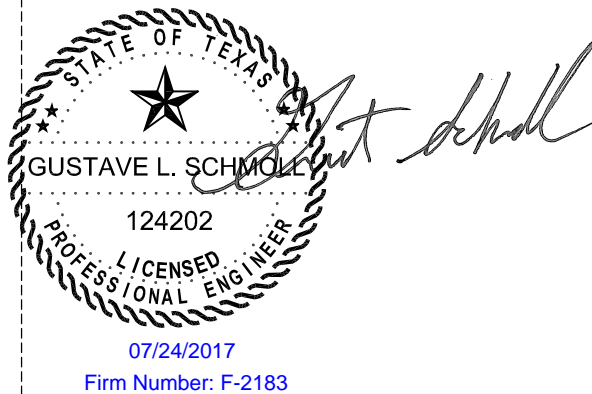


FLANGED BTM MOUNT DETAIL

| | |
|----|------------------------------|
| 19 | WITH SLEEVE - ALL CONDITIONS |
| 11 | 11 |

6"=1'-0"

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NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION 144" HIGH AND 60" WIDE. REFER TO SHEET 3 OF 19 FOR ATTACHMENT LOCATIONS ON SMALLER LOUVER SECTIONS

| | | | |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
| A | INITIAL RELEASE | 6/2/2017 | LGH |
| REV. | DESCRIPTION | DATE | DRAWN BY |

UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

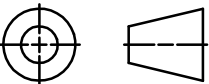
TOLERANCE UNLESS NOTED:

| | |
|----------|--------|
| X.X | ±0.030 |
| X.XX | ±0.015 |
| X.XXX | ±0.010 |
| ANGLE | ±1° |
| FRACTION | ±1/16 |

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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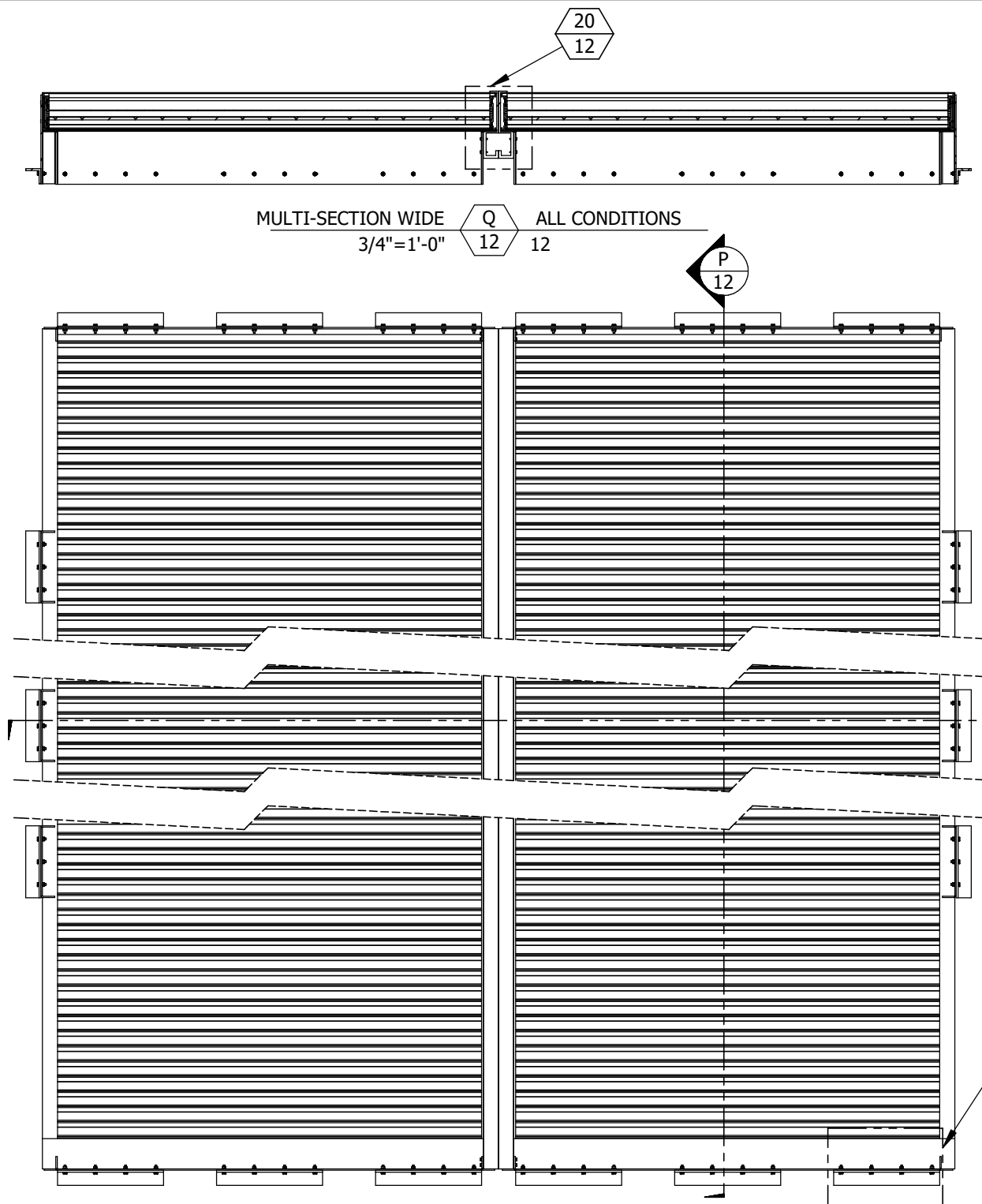
THIRD ANGLE PROJECTION



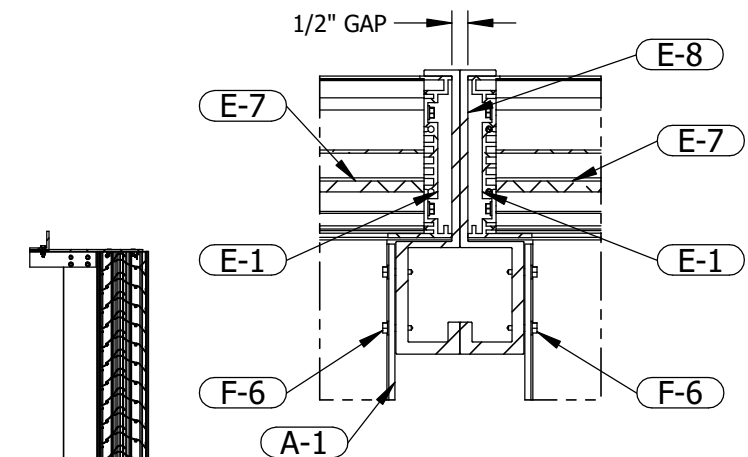
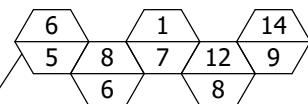
POTTORFF

| | | | | |
|---|-------------------|---------------|-------------|----------------|
| DRAWING DESCR: SINGLE SECT WIDE X SINGLE SECT HIGH - FLANGED SLEEVED ASSY - ALL | | | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 11 of 19 | SCALE: 3/4"=1'-0" | | | ECD-545-MD TDI |

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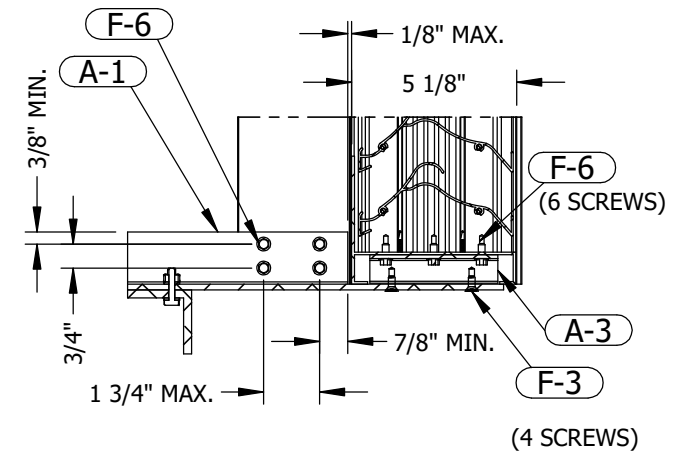


INTERIOR ELEVATION
QUANTITY SECTIONS WIDE IS UNLIMITED



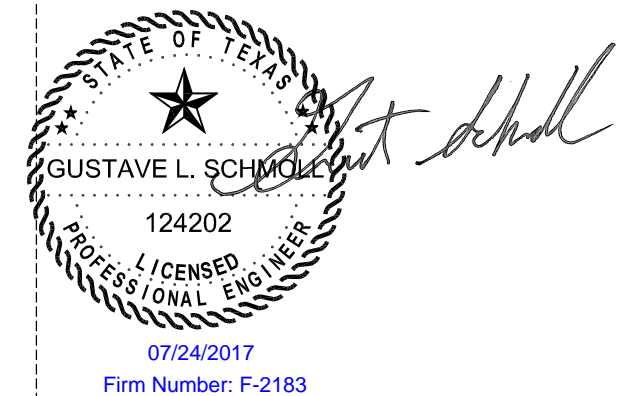
MULTI-SECTION WIDE 20/12 MULLION INSTALLATION
6"=1'-0" 12
QUANTITY SECTIONS WIDE IS UNLIMITED

MULTI-SECTION WIDE X SINGLE SECTION HIGH - ALL CONDITIONS



BOTTOM DETAIL 21/12 ALL CONDITIONS
6"=1'-0" 12

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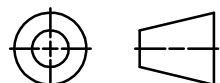
105 School Creek Trail
Luxemburg, WI 54217
Phone: (920)-617-1042
Fax: (920)-617-1100
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NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION 144" HIGH AND 60" WIDE. REFER TO SHEET 3 OF 19 FOR ATTACHMENT LOCATIONS ON SMALLER LOUVER SECTIONS

UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.
TOLERANCE UNLESS NOTED:
X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16

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THIRD ANGLE PROJECTION



POTTORFF

DRAWING DESCR: MULTI-SECTION WIDE X SINGLE SECTION HIGH - ALL CONDITIONS

PROJECT: ECD-545-MD TDI

LOCATION:

CUSTOMER:

PROJ. MGR:

DATE: 6/2/2017

SHEET: 12 of 19

DRAWN BY: LGH

ORDER NUMBER

SCALE: 3/4"=1'-0"

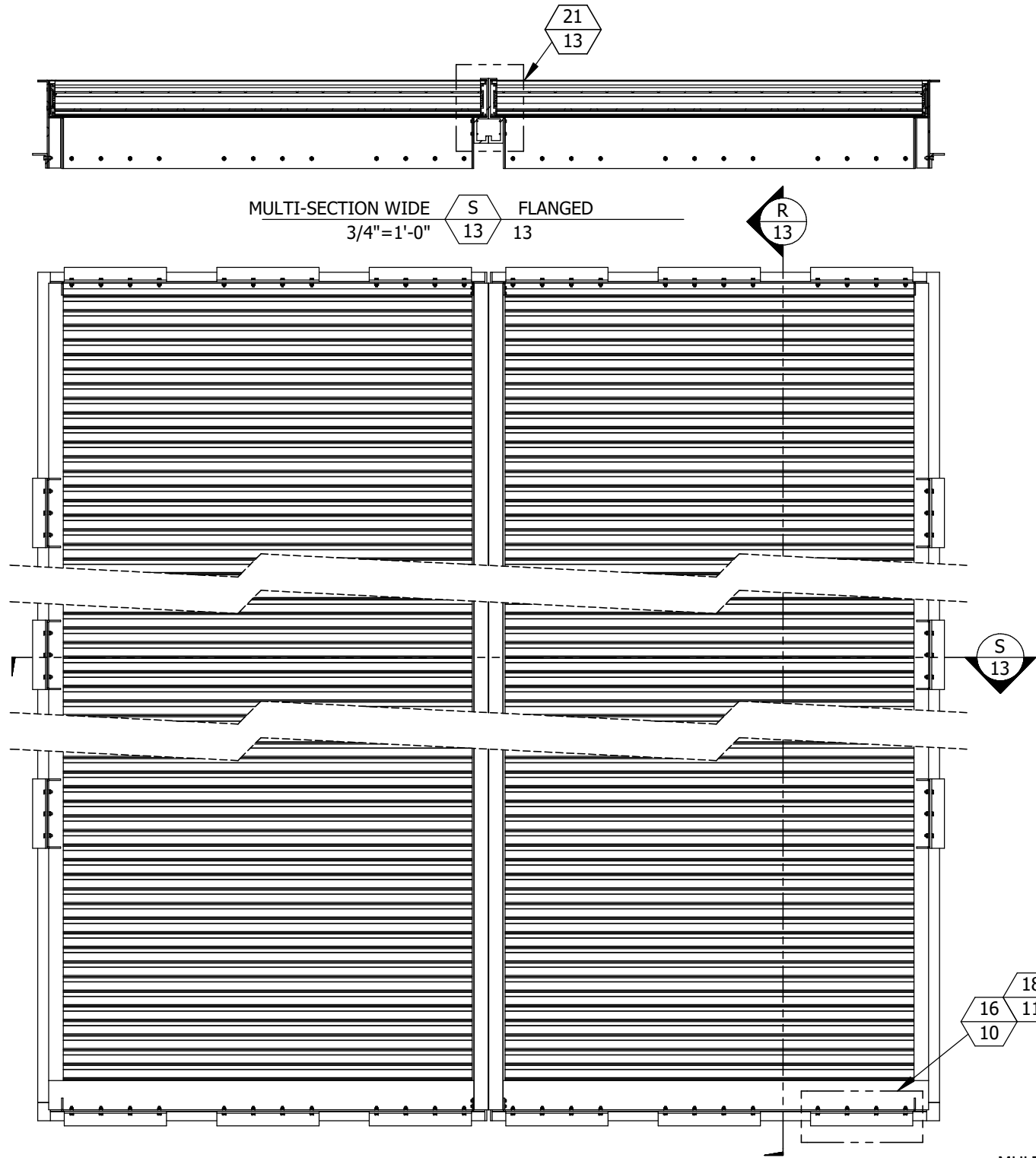
P.O. NUMBER

DRAWING NUMBER

ECD-545-MD TDI

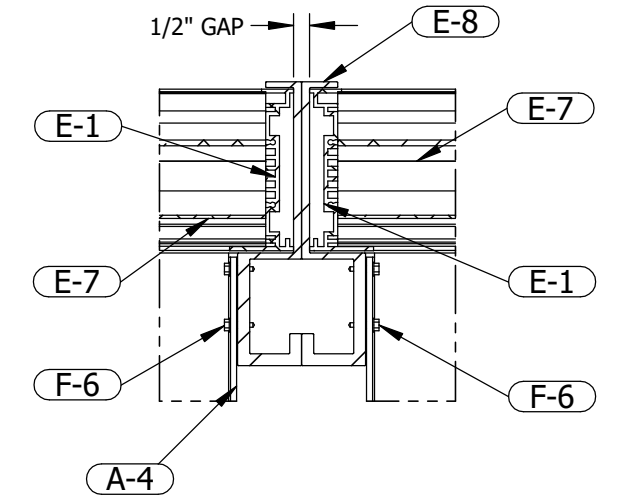
| REV. | DESCRIPTION | DATE | DRAWN BY |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
| A | INITIAL RELEASE | 6/2/2017 | LGH |

MULTI-SECTION WIDE X SINGLE SECTION HIGH - FLANGED - ALL CONDITIONS

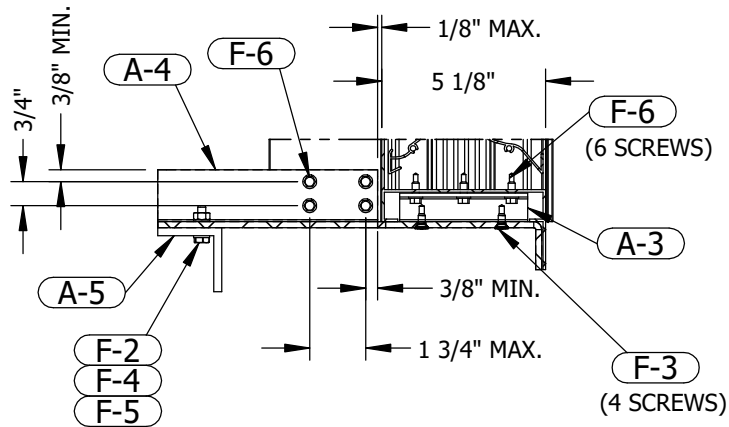


INTERIOR ELEVATION
QUANTITY SECTIONS WIDE IS UNLIMITED

MULTI-SECTION WIDE R FLANGED
3/4"=1'-0" 13 13

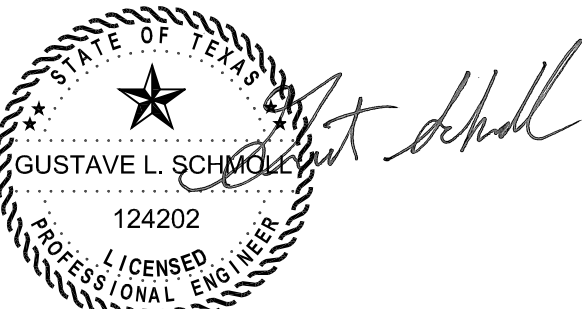


MULTI-SECTION WIDE 21 MULLION INSTALLATION
6"=1'-0" 13 13
QUANTITY SECTIONS WIDE IS UNLIMITED



MULTI-SECTION WIDE 22 MULLION INSTALLATION
6"=1'-0" 13 13

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07/24/2017
Firm Number: F-2183

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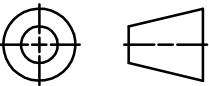
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Luxemburg, WI 54217
Phone: (920)-617-1042
Fax: (920)-617-1100
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NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION 144" HIGH AND 60" WIDE. REFER TO SHEET 3 OF 19 FOR ATTACHMENT LOCATIONS ON SMALLER LOUVER SECTIONS

UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.
TOLERANCE UNLESS NOTED:
X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16
MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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Fort Worth, Texas 76106
Phone: 817-509-2300
Fax: 817-831-3110

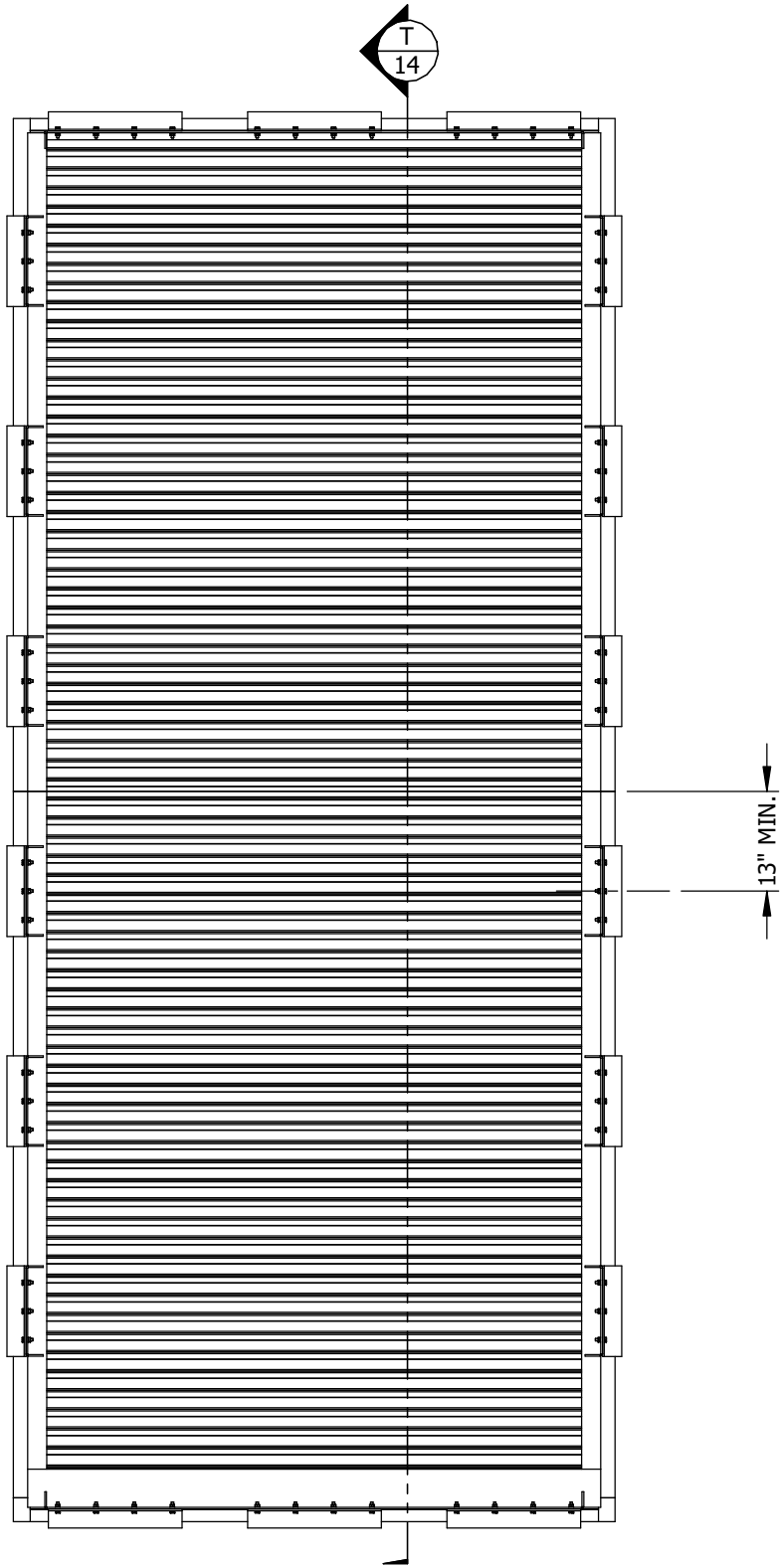
THIRD ANGLE PROJECTION



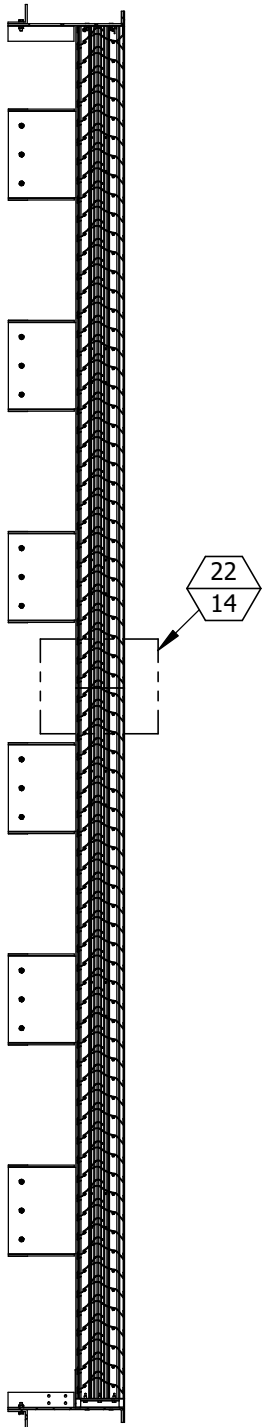
POTTORFF

| | | | | |
|--|-------------------|---------------|-------------|----------------|
| DRAWING DESCR: MULTI-SECTION WIDE X SINGLE SECTION HIGH - FLANGED ASSY - ALL | | | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 13 of 19 | SCALE: 3/4"=1'-0" | | | ECD-545-MD TDI |

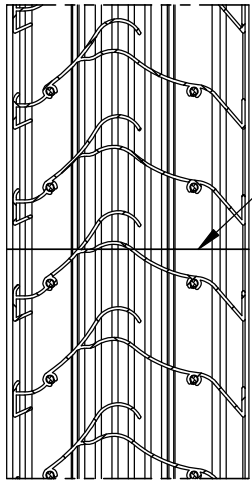
SINGLE SECTION WIDE X MULTI-SECTION HIGH - ALL CONDITIONS



INTERIOR ELEVATION
QUANTITY SECTIONS HIGH IS UNLIMITED

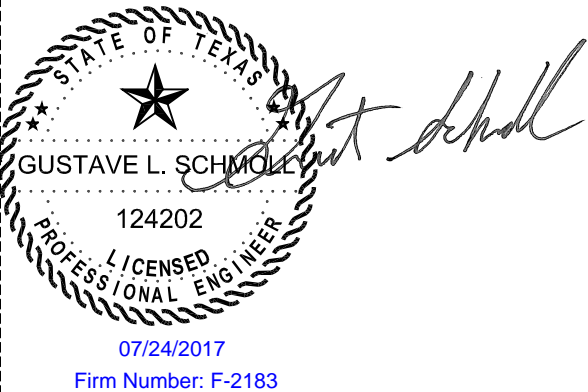


MULTI-SECTION HIGH T FLANGED
3/4"=1'-0" 14 14



MULTI-SECTION HIGH 22 SPLICE SECTION DTL
3"=1'-0" 14 14

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NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION 72" HIGH OR LESS. REFER TO SHEET 3 OF 19 FOR ATTACHMENT LOCATIONS ON LOUVER SECTIONS OVER 72" HIGH

| | | | |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
| A | INITIAL RELEASE | 6/2/2017 | LGH |
| REV. | DESCRIPTION | DATE | DRAWN BY |

UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

TOLERANCE UNLESS NOTED:

| | |
|----------|--------|
| X.X | ±0.030 |
| X.XX | ±0.015 |
| X.XXX | ±0.010 |
| ANGLE | ±1° |
| FRACTION | ±1/16 |

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

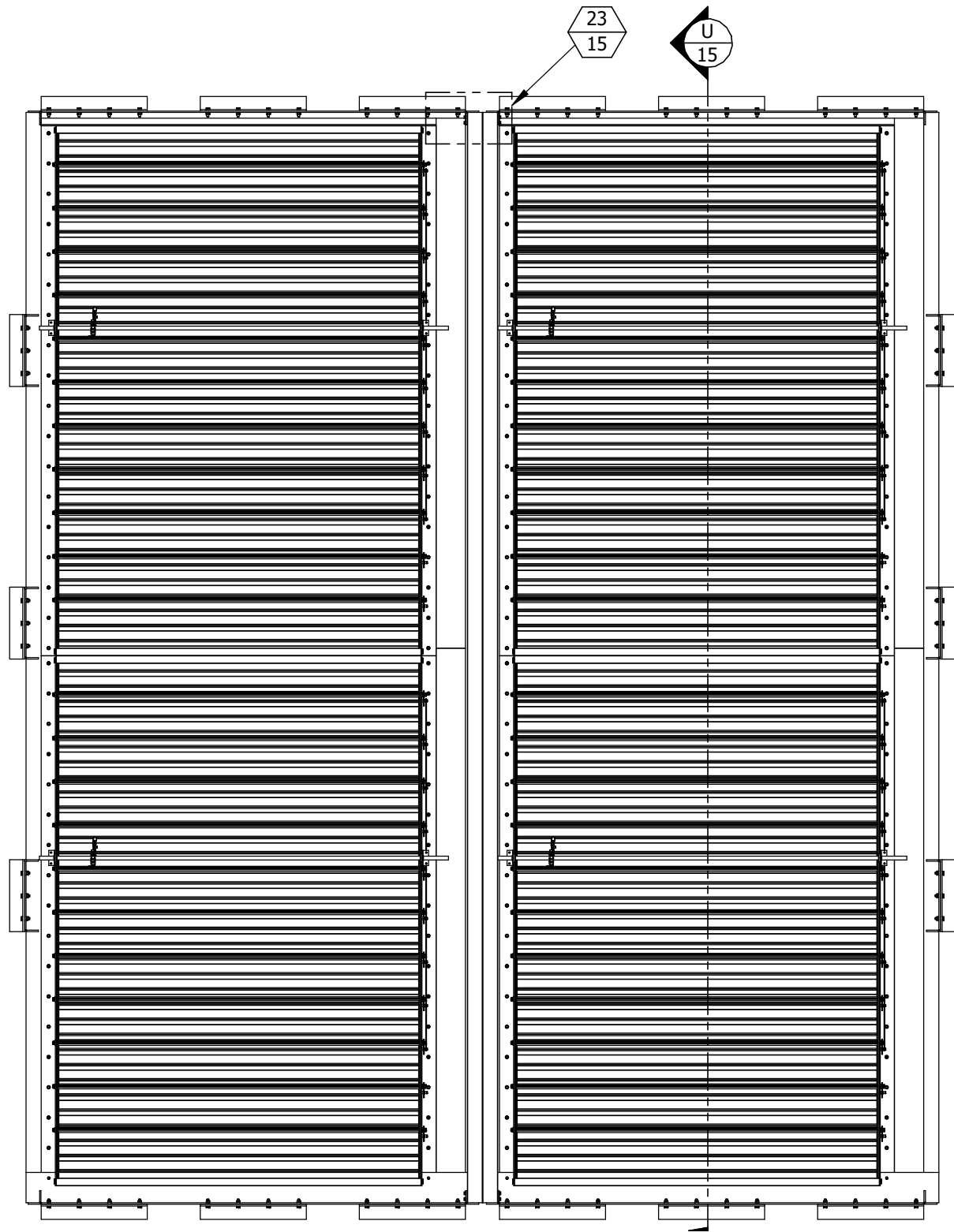
5101 Blue Mound Road
Fort Worth, Texas 76106
Phone: 817-509-2300
Fax: 817-831-3110

THIRD ANGLE PROJECTION

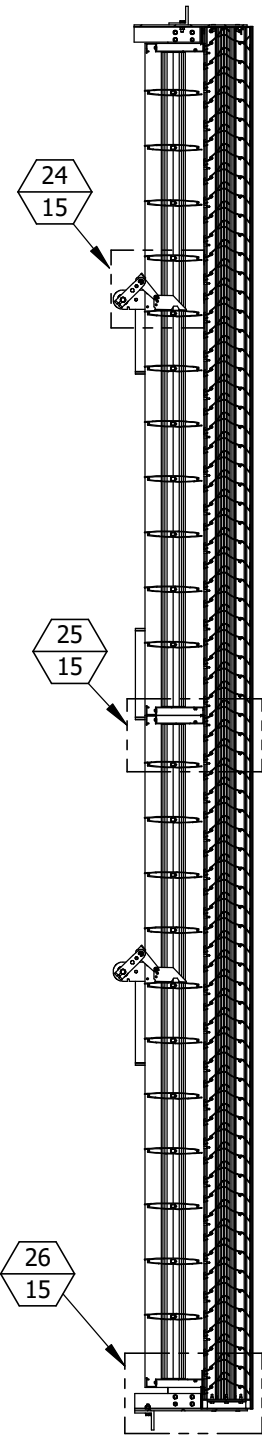
POTTORFF

| | | | | |
|--|-------------------|---------------|-------------|----------------|
| DRAWING DESCR: SINGLE SECTION WIDE X MULTI-SECTION HIGH - ALL CONDITIONS | | | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 14 of 19 | SCALE: 3/4"=1'-0" | | | ECD-545-MD TDI |

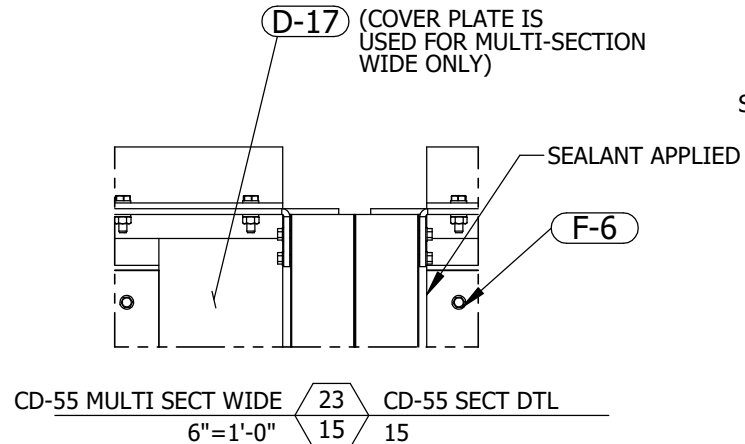
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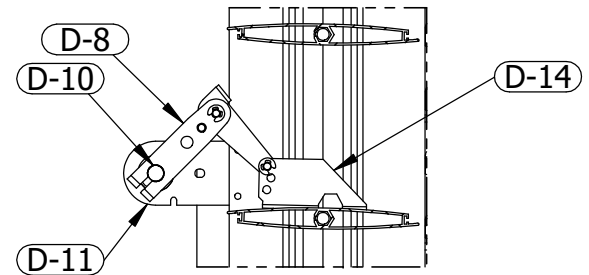
INTERIOR ELEVATION
QUANTITY SECTIONS WIDE IS UNLIMITED



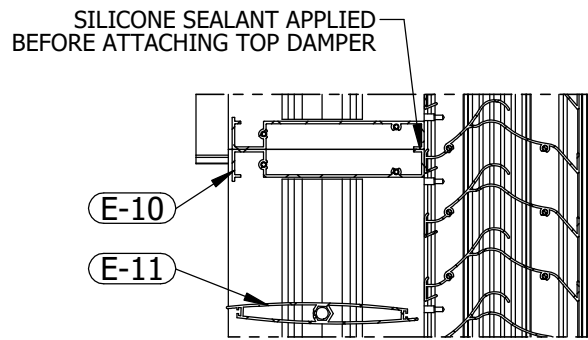
CD-55 DAMPER U VERTICAL SECTION
3/4"=1'-0" 15 15



CD-55 MULTI SECT WIDE 23 CD-55 SECT DTL
6"=1'-0" 15 15

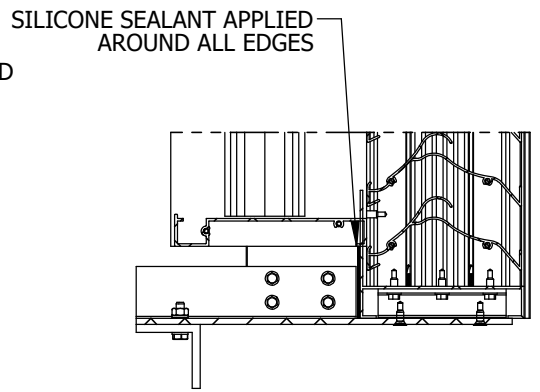


CD-55 DRIVE LINKAGE 24 CD-55 SECT DTL
6"=1'-0" 15 15



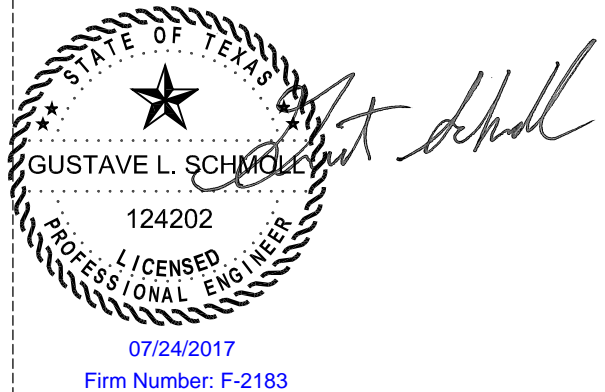
CD-55 MULTI SECT HIGH 25 CD-55 SECTION DTL
6"=1'-0" 15 15

MULTI-SECTION WIDE X SINGLE SECTION HIGH - ALL CONDITIONS



CD-55 MULTI SECT WIDE 26 CD-55 SECTION DTL
6"=1'-0" 15 15

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NOTE: THE ELEVATION VIEW INCLUDED ON THIS PAGE SHOWS THE ATTACHMENT LOCATIONS FOR A LOUVER SECTION BETWEEN 72" AND 144" HIGH AND 46" TO 60" WIDE. REFER TO SHEET 3 FOR ATTACHMENT LOCATIONS ON SMALLER LOUVER SECTIONS

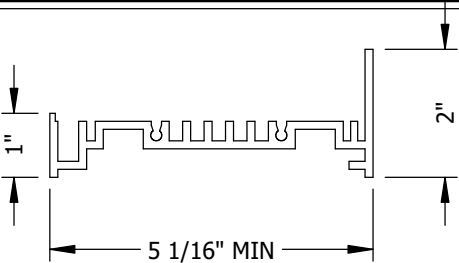
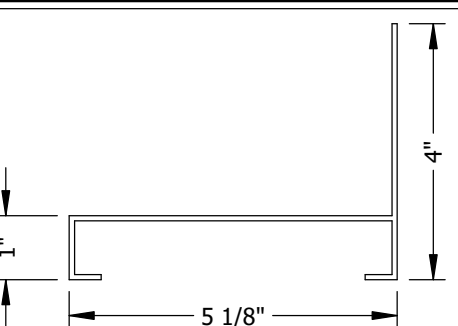
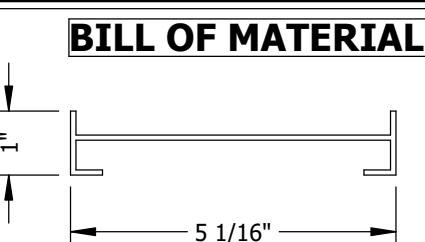
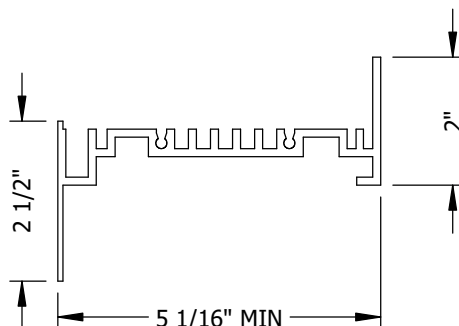
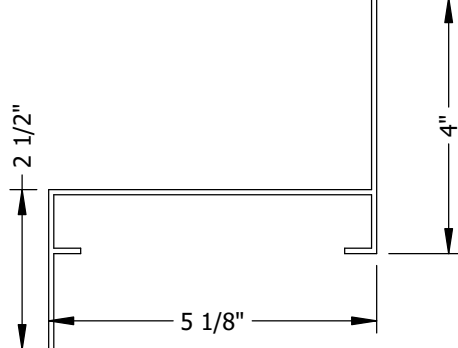

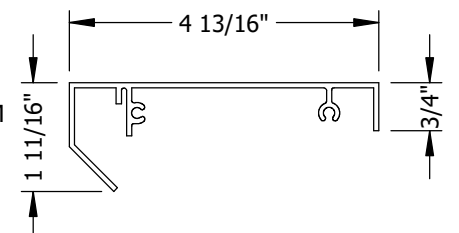
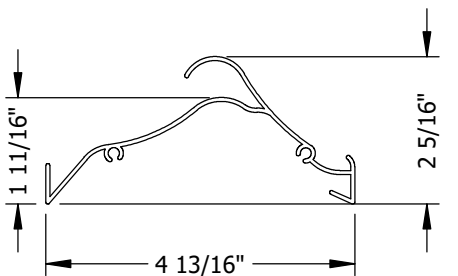
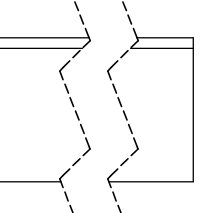
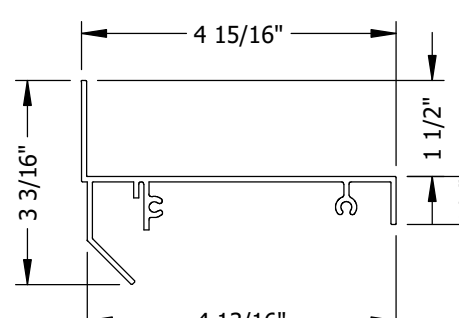
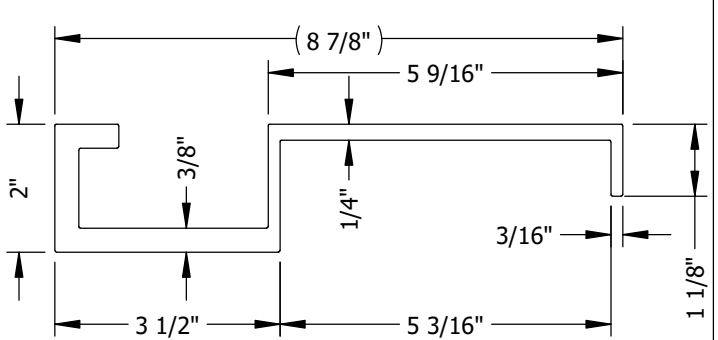
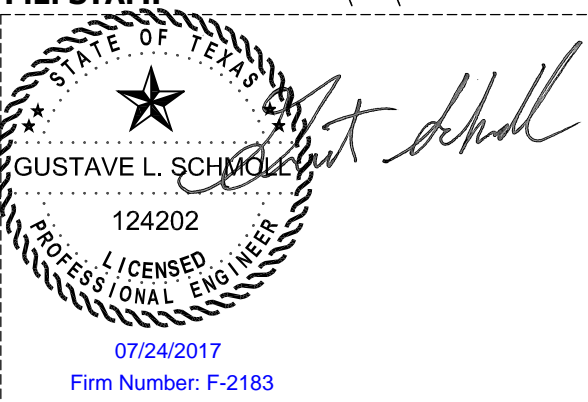
UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.
TOLERANCE UNLESS NOTED:
X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16
MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION

POTTORFF

| | | | | |
|--|-------------------|---------------|-------------|----------------|
| DRAWING DESCR: CD-55 DAMPER ATTACHMENT | | | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 15 of 19 | SCALE: 3/4"=1'-0" | | | ECD-545-MD TDI |

| | | | |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
| A | INITIAL RELEASE | 6/2/2017 | LGH |
| REV. | DESCRIPTION | DATE | DRAWN BY |

| | | |
|---|---|---|
| <p>PART NO: E-1</p> <p>PART NAME: LOUVER JAMB, EXTERIOR</p> <p>MATERIAL: 0.125" THICK 6063-T5 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  | <p>PART NO: E-5</p> <p>PART NAME: LOUVER SILL, EXTERIOR</p> <p>MATERIAL: 0.081" THICK 6063-T5 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  | <p>PART NO: E-9</p> <p>PART NAME: ROLLFRAME EXTRUSION</p> <p>MATERIAL: 0.081" THICK 6063-T5 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  <div>BILL OF MATERIALS</div> |
| <p>PART NO: E-2</p> <p>PART NAME: LOUVER JAMB, EXTERIOR, FLANGED</p> <p>MATERIAL: 0.125" THICK 6063-T5 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  | <p>PART NO: E-6</p> <p>PART NAME: LOUVER SILL, EXTERIOR, FLANGED</p> <p>MATERIAL: 0.081" THICK 6063-T5 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  | <p>PART NO: E-10</p> <p>PART NAME: DAMPER SILL</p> <p>MATERIAL: 0.081" THICK 6063-T5 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  |
| <p>PART NO: E-3</p> <p>PART NAME: LOUVER HEAD, EXTERIOR</p> <p>MATERIAL: 0.081" THICK 6063-T5 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  | <p>PART NO: E-7</p> <p>PART NAME: BLADE</p> <p>MATERIAL: 0.063" THICK 6063-T5 EXTRUDED ALUMINUM OR 0.081" THICK 6063-T5</p> <p>SCALE: 4"=1'-0"</p>  | <p>PART NO: L-1</p> <p>PART NAME: SLEEVE</p> <p>MATERIAL: MIN. 20 GA. THICK 5052-H32 SHEET ALUMINUM OR MIN. 20-GA THICK GALVANIZED, 304 STAINLESS, OR 316 STAINLESS STEEL SHEET</p> <p>SCALE: 6"=1'-0"</p>  |
| <p>PART NO: E-4</p> <p>PART NAME: LOUVER HEAD, EXTERIOR, FLANGED</p> <p>MATERIAL: 0.081" THICK 6063-T5 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  | <p>PART NO: E-8</p> <p>PART NAME: MULLION</p> <p>MATERIAL: 0.375" THICK 6005-T6 EXTRUDED ALUMINUM</p> <p>SCALE: 4"=1'-0"</p>  | <div><p>P.E. STAMP</p><p>RICE ENGINEERING</p><p>105 School Creek Trail Luxemburg, WI 54217 Phone: (920)-617-1042 Fax: (920)-617-1100 www.rice-inc.com</p></div> |

| | | | |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
| A | INITIAL RELEASE | 6/2/2017 | LGH |
| REV. | DESCRIPTION | DATE | DRAWN BY |

UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

TOLERANCE UNLESS NOTED:

X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16

MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION

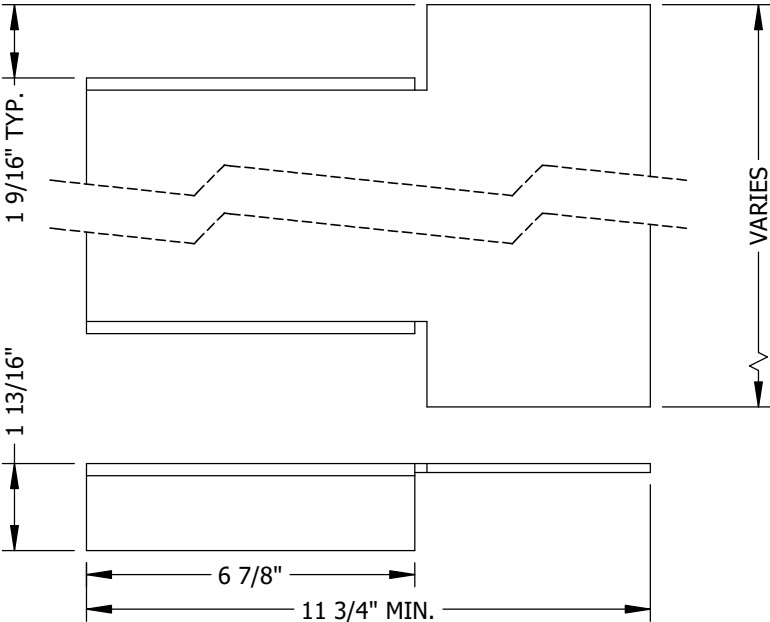


POTTORFF

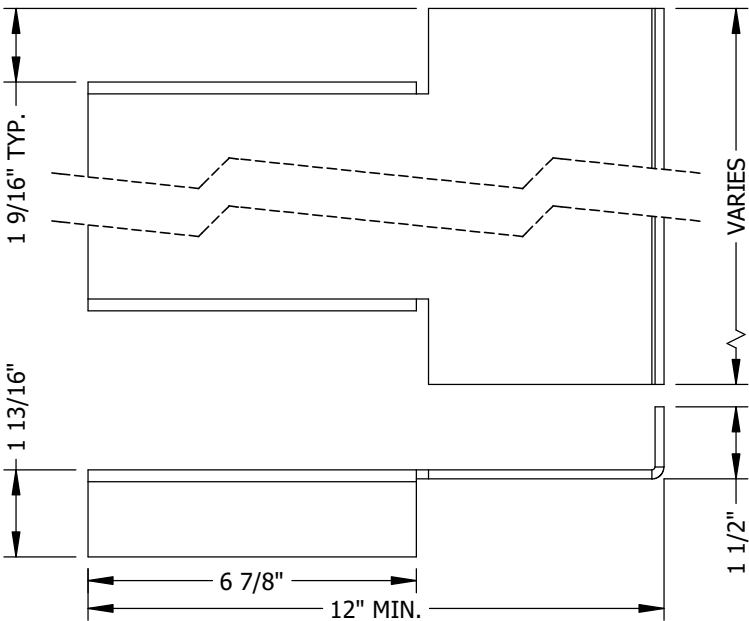
| | | | |
|----------------------------------|-----------------|----------------|-------------|
| DRAWING DESCR: BILL OF MATERIALS | | | |
| PROJECT: ECD-545-MD TDI | | | |
| LOCATION: | | | |
| CUSTOMER: | | | |
| PROJ. MGR: | | DRAWN BY: LGH | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER |
| SHEET: 16 of 19 | SCALE: AS NOTED | DRAWING NUMBER | |
| | | ECD-545-MD TDI | |

BILL OF MATERIALS

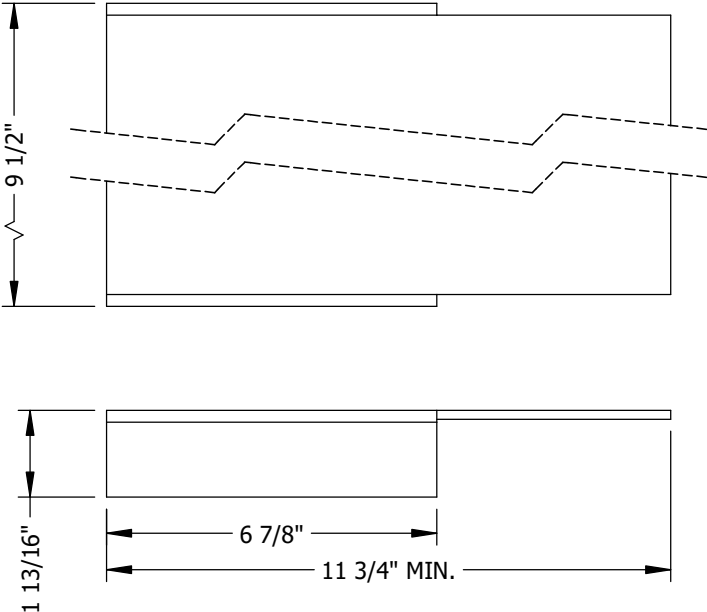
PART NO: A-1
PART NAME: FORMED CLIP, WITHOUT FRONT FLANGE
MATERIAL: 3/16" THICK
5052-H32 FORMED ALUMINUM
SCALE: 3"=1'-0"



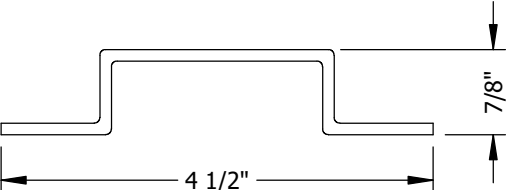
PART NO: A-4
PART NAME: FORMED CLIP WITH FRONT FLANGE
MATERIAL: 3/16" THICK
5052-H32 FORMED ALUMINUM
SCALE: 3"=1'-0"



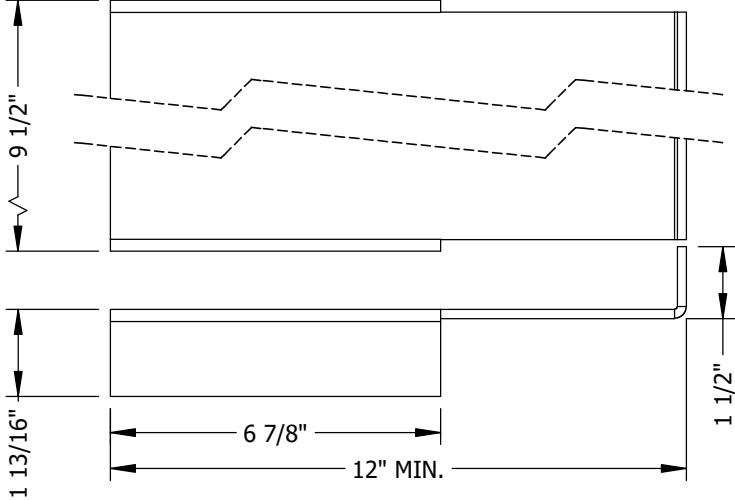
PART NO: A-7
PART NAME: SIDE CLIP WITHOUT FRONT FLANGE
MATERIAL: 3/16" THICK
5052-H32 FORMED ALUMINUM
SCALE: 3"=1'-0"



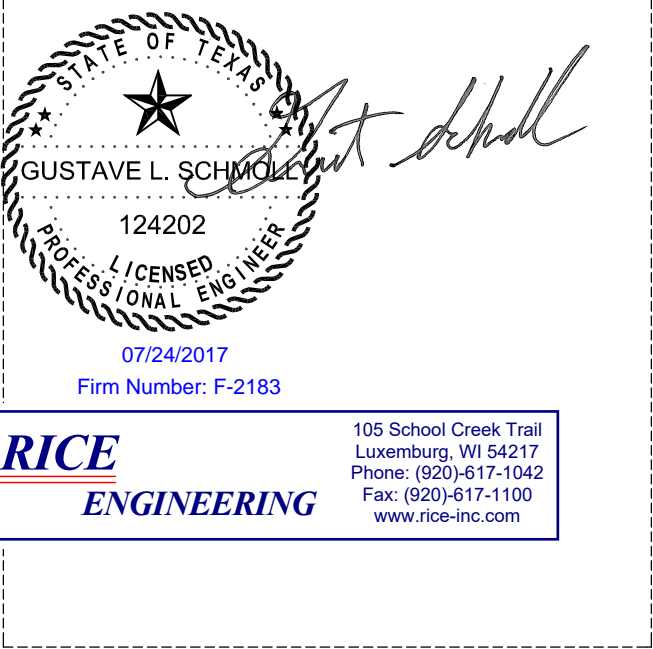
PART NO: A-3
PART NAME: HAT CHANNEL
MATERIAL: 1/8" THICK X 4" LONG
5052-H32 FORMED ALUMINUM
SCALE: 6"=1'-0"



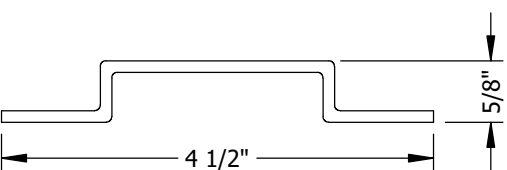
PART NO: A-9
PART NAME: SIDE CLIP WITH FRONT FLANGE
MATERIAL: 3/16" THICK
5052-H32 FORMED ALUMINUM
SCALE: 3"=1'-0"



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PART NO: A-6
PART NAME: SIDE HAT CHANNEL
MATERIAL: 1/8" THICK X 4" LONG
5052-H32 FORMED ALUMINUM
SCALE: 6"=1'-0"



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X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16
MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION

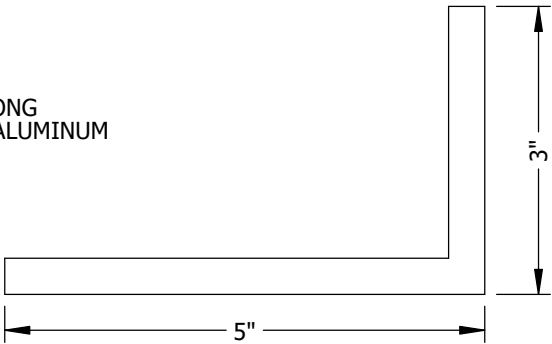
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|----------------------------------|-----------------|---------------|-------------|----------------|
| DRAWING DESCR: BILL OF MATERIALS | | | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 17 of 19 | SCALE: AS NOTED | | | ECD-545-MD TDI |

| | | | |
|------|-----------------|-----------|----------|
| B | ADDED NOTES | 7/19/2017 | LGH |
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| REV. | DESCRIPTION | DATE | DRAWN BY |

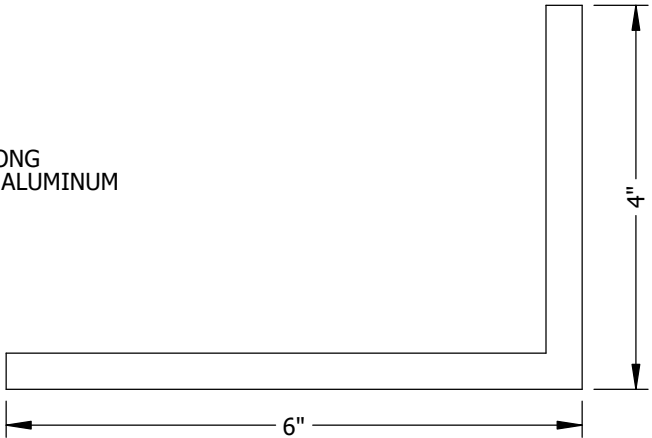
BILL OF MATERIALS

PART NO: A-2
PART NAME: CLIP ANGLE
MATERIAL: 5" X 3" X 3/8" X 12" LONG
6061-T6 EXTRUDED ALUMINUM
SCALE: 6"=1'-0"



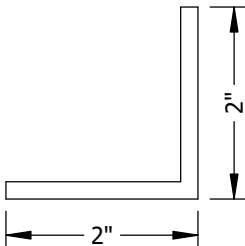
PART NO: A-8
PART NAME: SIDE CLIP ANGLE
MATERIAL: 5" X 3" X 3/8" X 9" LONG
6061-T6 EXTRUDED ALUMINUM
SCALE: 6"=1'-0"

PART NO: A-12
PART NAME: CLIP ANGLE
MATERIAL: 6" X 4" X 3/8" X 12" LONG
6061-T6 EXTRUDED ALUMINUM
SCALE: 6"=1'-0"



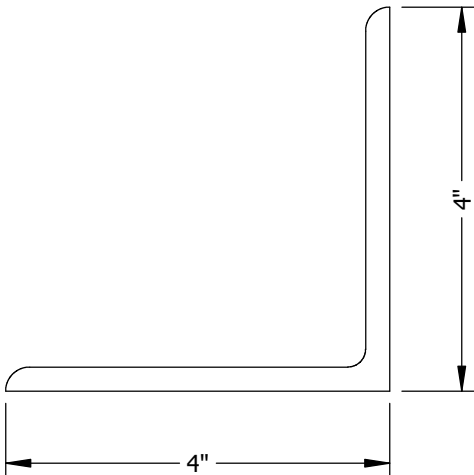
PART NO: A-13
PART NAME: SIDE CLIP ANGLE
MATERIAL: 6" X 4" X 3/8" X 9" LONG
6061-T6 EXTRUDED ALUMINUM
SCALE: 6"=1'-0"

PART NO: A-5
PART NAME: RETAINING ANGLE
MATERIAL: 1/4" THICK X 14" LONG
6063-T5 EXTRUDED ALUMINUM
OR
3/16" THICK X 14" LONG
5052-H32 FORMED ALUMINUM
SCALE: 6"=1'-0"

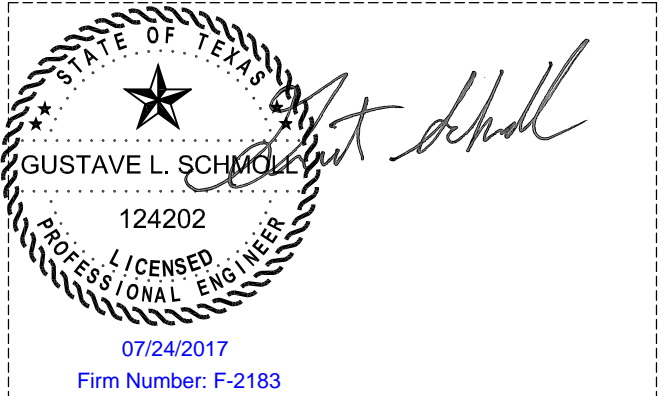


PART NO: A-10
PART NAME: RETAINING ANGLE
MATERIAL: 1/4" THICK X 9 1/2" LONG
6063-T5 EXTRUDED ALUMINUM
OR
3/16" THICK X 9 1/2" LONG
5052-H32 FORMED ALUMINUM

PART NO: A-11
PART NAME: CLIP ANGLE
MATERIAL: 4" X 4" X 1/4" X 2" LONG
6061-T6 EXTRUDED ALUMINUM
SCALE: 6"=1'-0"



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X.X ±0.030
X.XX ±0.015
X.XXX ±0.010
ANGLE ±1°
FRACTION ±1/16
MAX HOLE BREAKOUT:
15% OF MATERIAL THICKNESS

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THIRD ANGLE PROJECTION

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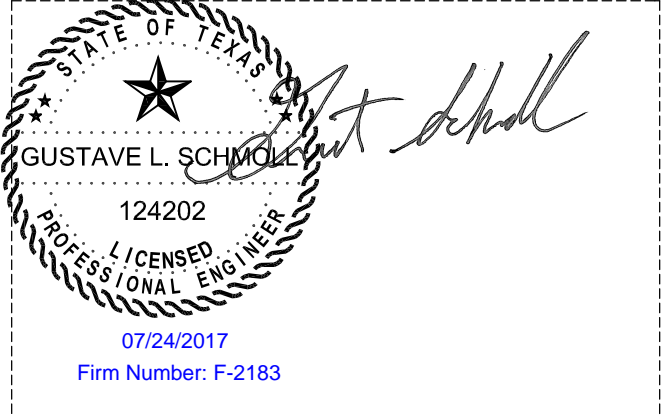
| | | | | |
|----------------------------------|-----------------|---------------|-------------|----------------|
| DRAWING DESCR: BILL OF MATERIALS | | | | |
| PROJECT: ECD-545-MD TDI | | | | |
| LOCATION: | | | | |
| CUSTOMER: | | | | |
| PROJ. MGR: | | DRAWN BY: LGH | | |
| DATE: 6/2/2017 | CHK'D BY: JEC | ORDER NUMBER | P.O. NUMBER | DRAWING NUMBER |
| SHEET: 18 of 19 | SCALE: AS NOTED | | | ECD-545-MD TDI |

BILL OF MATERIALS

| MISCELLANEOUS FASTENERS | |
|-------------------------|--|
| PART NO | DESCRIPTION |
| F-1 | #10-16 X 3" LONG, HWH, 410 S.S. SELF-DRILLING TEK MACHINE SCREW |
| F-2 | WASHER, FLAT, 1/4" I.D. X 5/8" O.D., 18-8 S.S. |
| F-3 | #12-14 X 3/4" LONG FLAT HEAD, 410 S.S. SELF-DRILLING TEK MACHINE SCREW |
| F-4 | NUT, HEX, 1/4-20 UNC, 18-8 S.S. |
| F-5 | BOLT, HEX HEAD, 1/4-20 UNC X 1" LONG, 304 S.S. |
| F-6 | #12-14 X 3/4" LONG, HWH, 410 S.S. SELF-DRILLING TEK MACHINE SCREW |
| F-7 | #12-14 X 1" LONG, HWH, SELF-DRILLING TEK MACHINE SCREW |
| F-8 | 5/8" x 5-1/2" HILTI KWIK BOLT III EXPANSION ANCHOR |
| F-9 | 1/2" X 3-1/2" LAG BOLT W/FLAT WASHER , 3" MINIMUM EMBEDMENT |
| F-10 | 1/2" x 5-1/2" HILTI KWIK BOLT TZ EXPANSION ANCHOR |
| F-11 | #10-24 X 3/4" LONG, HWH, 410 SST, F-POINT THREAD-CUTTING MACHINE SCREW |

| MISC. DAMPER PARTS | | |
|--------------------|-------------------------------------|---------------------------------|
| PART # | DESCRIPTION | MATERIAL |
| D-1 | BLADE SEAL | PVC |
| D-2 | STOP SEAL | PVC |
| D-3 | BLADE STOP, 14 GA. FORMED ALUMINUM | 0.063" ALUMINUM |
| D-4 | HEX AXLE, 304 SST | 304 SST |
| D-5 | HEX BUSHING, | OIL IMPREGNATED SST |
| D-6 | PARALLEL CAM, 304 SST | 304 SST |
| D-7 | LINK BAR, 1/2" X 1/8" GALV FLAT BAR | 1/2" X 1/8" GALVANIZED FLAT BAR |
| D-8 | KNEE LOCK ASSEMBLY, GALV. | GALVANIZED |
| D-9 | WASHER, NYLON | NYLON |
| D-10 | JACKSHAFT, GALV | GALVANIZED |
| D-11 | JACKSHAFT BRACKET, GALV | 12 GA. GALVANIZED |
| D-12 | JACKSHAFT BEARING | STEEL |
| D-13 | JACKSHAFT SPRING CLIP | SPRING STEEL |
| D-14 | BLADE BRACKET | 14 GA. SST |
| D-15 | PIN | 304 SST |
| D-16 | E-RING | ZINC PLATED STEEL |
| D-17 | MULTI-SECTION COVER PLATE | 0.125" ALUMINUM |

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Luxemburg, WI 54217
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www.rice-inc.com

NOTE:
ALL INSTALLATION FASTENERS AND ANCHORS SHOULD BE OF CORROSION-RESISTANT STEEL
(STAINLESS, HOT-DIP GALVANIZED, OR ZINC-PLATED)

UNLESS OTHERWISE SPECIFIED
DIMENSION ARE IN INCHES.

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THIRD ANGLE PROJECTION



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DRAWING DESCR: BILL OF MATERIALS

PROJECT: ECD-545-MD TDI

LOCATION:

CUSTOMER:

PROJ. MGR:

DATE: 6/2/2017

SHEET: 19 of 19

CHK'D BY: JEC

SCALE: AS NOTED

DRAWN BY: LGH

ORDER NUMBER

P.O. NUMBER

DRAWING NUMBER

ECD-545-MD TDI